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Journal of the Alumni Association of the
Albany Medical College

VOLUME XXXVIII

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φάος, ἐκ δὲ πάθους ἀναψυχήν

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ALBANY MEDICAL ANNALS

Original Communications

THE EPIDEMIC OF POLIOMYELITIS.

Read in abstract at the meeting of the Schoharie County Medical Society, Cobleskill, September 25, 1916.

By AUGUSTUS B. WADSWORTH, M. D.,

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Infantile paralysis is an infectious and communicable disease. Its infectious nature was first recognized by Strumpell in 1884, who suggested the hypothesis that an external infectious agent was the cause. Recognition of the communicability of the disease has been long delayed, although between forty and fifty epidemics have been described. Our knowledge of this part of the subject has been gained very largely through experimental study which has thrown much light upon the nature of the virus and its distribution in the body tissues. The serious nature of the present epidemic, however, is what has brought home to us all the fact that the disease is communicable.

Hitherto cases have been treated in the open wards of the hospital with no special precautions to prevent the spread of the disease. Now, they are required to be housed in special hospitals and strictly quarantined. Cities and even states have attempted to enforce quarantine restrictions against all children coming from infected districts irrespective of the presence or the absence of the disease or history of contact. All these precautionary measures which have been developed during the present epidemic have resulted from the campaign of publicity by which the people have been educated. If the pendulum has swung too far, leading, on the one hand, to almost hysterical precautions, on the other it has served to bring home to the people generally a knowledge of the fundamental importance of

The Experimental Study of the Disease in Animals.

Comparatively little progress was made in the study of infantile paralysis until the disease was induced in animals. Landsteiner and Popper(1) in 1909 ground up the spinal cord of a fatal case, suspended it in glycerine and salt solution, and inoculated it into the peritoneum of a chimpanzee. After a period of incubation this animal developed paralysis and other symptoms of the disease.

Following this experiment, practically coincident with it, other investigators, notably Knopfelmacher (2), Strauss and Huntoon(3), Flexner and Lewis(4), Leiner and Wiesner(5), and Römer(6), were also successful in similar experimental studies of the transmission of the disease from man to monkeys. Other animals have proven refractory until in the more recent experiments of Rosenau it was possible to inoculate young rabbits, and also, possibly, rats.

The difficulties of experimentation are great because it is not always possible to obtain monkeys, and unless the virulence of the material is greatly exalted in the species of animal inoculated, the disease does not always develop. However, in the experiments of Flexner(7) and others at the Rockefeller Institute, a strain of the virus was obtained of such virulence that the inoculation of minute quantities sufficed, and the disease developed after the transfer of the infectious material to the nasal mucous membrane of the monkey.

The description of the disease in monkeys as recorded by Landsteiner, Flexner, and others, corresponds closely with clinical observation of the disease in man. In the monkey the incubation period varies quite uniformly between seven and eleven days, the shortest period of incubation in these experiments being four days and the longest twenty days, although in one instance Leiner and Wiesner record the development of the disease forty-six days after inoculation.

The prodromal symptoms are interesting. Irritability, excitability, or, on the contrary, prostration with loss of appetite, are first noted, and these increase. Often there is augmentation in the temperature center, but the temperature of monkeys in captivity varies. A general tremor often precedes the onset of paralysis. Some hours after the first manifestations, rarely one to two days, paralysis beginning regularly in the inferior extremities is noted and may be unilateral. This extends to the arms and neck, and muscles of respiration are affected in the ascending types of the disease. In the superior type the muscles of the neck are first involved, or the cranial nerves, the facial, and oculo-motor. This follows inoculation into the cerebrum, but often the forms are mixed.

Less acute forms of the experimental disease pass into the chronic stages with atrophic changes. Römer describes paralysis developing in a monkey twelve days after inoculation which ameliorated in seven days, and three weeks later there was an exacerbation, the animal dying in two days. Similarly, Landsteiner describes paralysis in a monkey developing eleven days after inoculation, and dying twenty-nine days later, with lesions of chronic poliomyelitis.

The lesions of the experimental disease correspond exactly with those of the disease in man. Macroscopically in the cord there is hyperaemia and edema which affects the meninges and gray matter. In other cases hemorrhagic foci are disseminated in the anterior horn. Microscopically the lesions are disseminated throughout the cord, but predominate in the segments of the cord corresponding to the enervation of the muscles paralyzed.

The serous meninges are infiltrated by mononuclear cells, the nuclei of which are round and deeply staining; rarely polynuclear cells are present. This infiltration extends along the anterior septum and becomes accentuated near the vessels of the white matter. The inflammation involves the medullary substance following the perivascular channels forming a cellular mantle enveloping the blood vessels.

In the gray matter the infiltration is more or less circumscribed, foci or areas partly infiltrated by leucocytes, polymorphonuclear cells, in a state of karyorrhexis. To these polynuclear cells there are in addition lymphcytes and cells with large round or oval nuclei, and abundant cytoplasm. The gray matter is more or less edematous, and there are minute hemorrhages.

The nerve cells are altered, but in varying degree. There is granular degeneration with vacuolation of the protoplasm and more or less disintegration of the corpuscles of Nissl. Following this, the engulfment of the nervous element by the migrating cells takes place. The leucocytes and often the lymphocytes and macrophages accumulate and destroy the nerve cells; the leucocytes destroy the protoplasm, and the macrophages take up the debris which results from the destruction of the nerve cells.

The lesions are not limited to the spinal cord, but are found in the bulb and protuberance. Flexner and Lewis record lesions of the intervertebral ganglia which resemble those found in rabies. Landsteiner found lesions in the cerebrum and central nuclei, but he was unable to find any corpuscles of Negri in the horn of Ammon. Landsteiner considers the polynuclear reaction to be a reaction of infection leading to the disintegration of the neurone due to the action of the virus. Then the resorption of the products resulting from the necrobiosis is the work of the macrophages.

In monkeys killed during the period of incubation, typical lesions were not found by Landsteiner. Leiner and Wiesner describe hyperemia, minute hemorrhages, and degeneration of the nerve cells in monkeys killed three days after inoculation, which they consider the lesions of the disease, but which might possibly have been due to other conditions.

This achievement of inducing the disease experimentally in monkeys marks the real progress in our knowledge of the disease, and opens up to further study promising lines of research into the nature of the inciting agent and the means whereby both prevention and cure may be accomplished. Attempts, however, to isolate from infectious material the agent of the disease have not been successful except very recently in the hands of one group of workers, and after surmounting the greatest difficulties, so great, in fact, that it is doubtful if confirmation will be quickly secured. This confirmation is especially doubtful when it is considered that the virus is filterable and will pass through the pores of the Berkefeld filters, and that its presence can be detected only by the inoculation of monkeys.

While these experimental studies relating to the cultivation of the agent outside of the body tissues were carried on, studies of the spread of the disease have been made. These experiments have demonstrated the presence of the virus in the discharges of the nasal mucous membrane and of the intestines of cases of the disease and of healthy persons who have been in contact with cases, and by the inoculation of monkeys have emphasized the importance of transfer by contact with cases or carriers. In the experiments of Rosenau, Anderson and of Flexner it has been shown that flies may carry the infectious material to monkeys under experimental conditions.

Although personal contact is the one known means of transfer, and attention in the present epidemic has centered on this, it is not possible by any knowledge we now have of the spread of infectious disease by personal contact and especially the transfer of diseases the agents of which are disseminated in the discharges of either the respiratory organs or the intestinal canal, to draw any significant analogies. Quite the contrary; practically all the social conditions which so vitally affect the spread of disease by contact, appear to have little or no effect on the spread of poliomyelitis. Extension of the epidemic along the lines of traffic and travel alone offers incontrovertible evidence of spread by contact. It may well be that contact is not only the essential but the only means by which the disease is spread, and that individual susceptibility, so limited as we know it is, determines the limitations of the spread of the disease; but it is a fact that the disease does not so often spread from one member of a family to another as do measles, scarlet fever, whooping cough, and other disease in the dissemination of which personal contact is the dominant factor. Since contact with cases or carriers must be recognized as the essential if not the dominant factor, the limited susceptibility within age groups and the rapid development of this epidemic force upon us one of two conclusions: that the infectious agent during this epidemic has been very widely disseminated in the district involved, or that there are hosts of " carriers " of the disease, persons who themselves insusceptible harbor the infectious agent.*

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*Hun, in the Aug. 1916, number of this journal points out many significant reasons for believing that personal contact does not adequately account for the spread of this disease.

In other words, the agent must be widely distributed in some medium in which it lives and doubtless grows, or it must be widely distributed on the person. The insusceptibility of animals to inoculation and the failure to find the virus in the blood militate against theories that vermin and insects are important factors. It cannot be assumed from the experimental demonstration of the possibility of transfer by insects under experimental conditions that this is actually the dominant factor in the ordinary circumstances of social life.

Further research alone will answer these fundamental questions, and cultivation of the agent in some medium other than the tissues of living monkeys will contribute more than anything else.

In the diagnosis and treatment of the disease, experimental study has already offered suggestive data. Upon this data has been based not only the examination of the spinal fluid to determine significant changes in the albumen and globulin content and an increase in the lymphocytes in the diagnosis of the disease, but also the therapeutic use of the blood serum from cases of the disease which have recovered even after several years.

In order to make a diagnostic examination of the spinal fluid, lumbar puncture is necessary. Under sterile aseptic conditions a needle is introduced approximately three inches, depending upon the muscular development and age of the patient, into the spinal canal in the third or fourth lumbar space. No general anesthesia is necessary; the patient lies on the side with the back arched so that the spines of the vertebrae are separated. The third or fourth lumbar space is determined by selecting the notch nearest the crests of the ilia, when the patient is in this position. When the needle enters the spinal canal the fluid will flow. The microscopical examination should be made immediately at the bedside.

The fluid is drawn into a white cell counter which has previously been filled to the No. 1 mark with a ten per cent solution of acetic acid, mixed, and a small drop placed in the ruled counting chamber. These counting chambers may have a standard depth of .1 millimeter or .2 millimeter as in a Fuchs-Rosenthal chamber. The actual count should be made and so reported.

When it is not possible to examine the fluid at the bedside it may be drawn into the pipettes and sealed and taken to the laboratory where the counts may be made. Some observers prefer to centrifugalize the fluid for half an hour in the laboratory and mount the sediment on a slide, staining with standard stains such as that of Wright. A differential count and approximate estimate should be made of any increase in the total number of cells obtained by this method.

An increase in albumen is determined by floating a small amount of spinal fluid on concentrated nitric acid. The depth of the ring indicates the increase in albumen, which is estimated as slight or moderate and marked 1+, 2+, 3+.

Similarly the globulin is determined by adding to one part of the fluid (preferably .1 to .2 cubic centimeter), four to five parts of ten per cent buytyric acid in physiological normal saline solution. This is heated to the boiling point, and normal sodium hydrate solution, .1 to .2 cubic centimeter, depending upon the quantity of spinal fluid used, is added slowly, and the mixture again heated to the boiling point. After cooling the white flocculent precipitate indicates the presence of globulin.

Fehling's solution is reduced in varying degree as shown by the appearance of a copper red precipitate at the bottom of the test tube after equal amounts of Fehling's solution and spinal fluid have been boiled.

In typical cases of poliomyelitis the cell content is moderately increased, ninety per cent of the cells being mononuclear cells. The albumen is considerably increased to 3+, if one uses this reading, and the globulin is well marked 2+.

Experience has shown that these changes are not always found in the spinal fluid at the first examination, and if absent the examination should be repeated when the symptoms are suggestive of the disease.

Whenever cloudy exudates are found they should be examined carefully for the presence of bacteria. It should always be borne in mind that in the very earlier stages of bacterial infection the spinal fluid may not be markedly cloudy and yet contain bacteria. In tubercular infections the fluid is clear and a differential examination should always be made to exclude if possible this disease when attempting to diagnose infantile paralysis.

The use of the blood serum obtained from cases of infantile paralysis which have long recovered from the disease has been urged by Flexner and others. It is difficult to understand how the serum from such cases could contain anti-bodies, or the protective substances ordinarily concerned in immunity, in sufficient quantities to be of definite practical value as a therapeutic agency in the treatment of infections that have already developed. This is quite contrary to all experience in the study of immunity because the protective substances resulting from active immunization do not remain permanently in the body fluids, although the body cells might be said to be potentially immune during life. Nevertheless, the experimental data indicates that the introduction of this serum into the spinal canal yields favorable results in the treatment of the disease. When mixed with the virus in the test tube and inoculated in monkeys, serum from recovered cases shows a distinctly inhibitory action, an action which is not possessed by a person who has not had the disease.

In monkeys that have been inoculated and have not yet developed paralysis, it is claimed that the induction of the serum of recovered cases inhibits further development of the disease, and paralysis is less apt to appear, or is less marked.

Finally, it is claimed that the introduction of the serum from recovered cases even after paralysis has developed in monkeys, seemingly lessens the progress of further paralysis. It is chiefly on this data that the use of serum in human cases is based. Consequently, it is quite impossible at the present time to correlate the results that have been obtained so as to draw any very definite conclusions regarding the practical value of the treatment.

To what extent normal serum from resistant animals may be substituted, and what rational interpretation of the action of such serum may be made, depends entirely upon the results of future research.

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TWO ADVANCES IN SURGICAL TECHNIC.

By E. MacD. STANTON, M. D., F. A. C. S.,

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A survey of the writer's operative work for the past three years reveals the fact that during this time there have been, along with a number of minor variations in technic, three really important changes which I believe may be looked upon as permanent advances in my operating room methods. One of these—the use of novocaine for local anaesthesia, with a very decided increase in the proportion of cases operated under local anaesthesia—needs no further comment at this time. The other two changes have been of decided service to me and because they have received but scant notice in the surgical literature will warrant, I believe, further notice.

Previous to November, 1913, I had used for two and a half years the iodine method of skin sterilization with good success but fully recognizing that the method had a number of both theoretical and practical defects. A dry field was essential to its success. This had been amply demonstrated by a number of investigators (1, 2) and this often mitigated against its use. Simple tincture of iodine contained no fat solvent so that no matter how strong a tincture was used one was only painting the surface with an antiseptic which could not penetrate to the deeper recesses containing bacteria.

Ample proof (3, 4, 5) was available that the virtues of this preparation rapidly wore off as the color disappeared during the course of an operation. The addition of a true fat solvent such as benzene (6) made the combination too irritating in some cases. The possibility of the iodine on the skin coming in contact with the peritoneum of the intestinal surfaces and causing trouble was being recognized by many surgeons and Bloodgood (7) had shown that bichloride of mercury as a hand solution and tincture of iodine were largely incompatible in the operating room. Lastly and possibly most important was the fact that iodine-prepared wounds in my experience did not heal as quickly as those made through skin surfaces prepared by simple soap and water and alcohol. A number of investigations had convinced me that even in iodine wounds healing by first intention there were very often evidences of irritation with a soft oedematous look to the incision and desquamation of the skin and occasionally a serous exudate collected in otherwise clean wounds.

I was in search of a bactericidal solution having the following properties. It must have a high degree of bactericidal activity. It should be generally applicable on all skin surfaces wet or dry, including the hands of the operator. It must be capable of penetrating the crevices of the skin and dissolving oily substances in the skin to reach buried bacteria. It must be non-irritating and at the same time it should not lower the power of resistance of the tissues, nor by its presence delay the processes of wound repair.

Theoretically McDonald's (8) solution possessed all of these qualifications and I began its use in November, 1913. This solution is prepared as follows:

Alcohol (denatured)	60 parts
Commercial acetone	40 parts
Pyxol.	2 parts

The solution is practically Von Herff's (9, 10, 11) acetone-alcohol solution plus a coal tar* disinfectant (Pylox). The investigations of v. Herff showed that the acetone-alcohol mixture alone was a very efficient medium for disinfecting the skin. With the addition of the coal tar disinfectant we have a solution with a bactericidal coefficient equal to or possibly several times that of tincture of iodine.

The solution is non-irritating so that it can be regularly employed for disinfecting the surgeon's hands as well as the patient's skin. Water, up to ten per cent or more, does not interfere with its action. Hence it is possible to use it on wet skin surfaces, such as those recently lathered for shaving, or the operator's hands after he has scrubbed them with soap and water.

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* Whiting and Slocum (*Annals of Surgery*, 1916, LXIII, 608) have shown that any one of several coal tar disinfectants with a high bactericidal coefficient may be used as the germicidal agent in this solution. McDonald uses pyxol. Whiting and Slocum believe that phenoco is superior. I have used the former but believe that the name and maker of the germicide is probably quite immaterial.

The solution is itself an excellent cleansing medium and so harmless that it can be used actually to scrub the patient, whereas tincture of iodine should not be rubbed in. It can be used before the patient is anaesthetized without danger of complaint, as it is not irritating. It does not stain skin surfaces and dries very quickly, so that it is not necessary to protect peritoneal surfaces from contact with the skin, as in the case of iodine skin treatment. It is cheaper than tincture of iodine.

The solution is now a standard for skin disinfection in this locality not only in the operating room but in the dispensaries and private offices and wherever a hand or skin disinfectant is used. It does not roughen the hands and aside from a slight tingling produces no irritation. Its chief defect is the rather pungent odor which, however, one soon becomes accustomed to.

Since beginning the use of this solution I have not had a single case of infection which I could in any way ascribe to incomplete sterilization of the skin. Following four hundred and seventy operations in primarily clean cases through skin surfaces prepared by this solution I have had only six infections as follows:

1. Caesarian section. Wound broke down due to a foul smelling infection by an organism belonging to the proteus group. Several other similar infections occurred about this time on the services of other surgeons still using iodine. By cultures I traced this infection to an error in preparing catgut.

2. Clean appendix. Streptococcus infection of wound. At least two other similar infections occurred in other patients operated at the same time and within two days half the nurses in training in this hospital came down with septic sore throat.

3. Caesarian section—late case—long in labor. Wound broke down by a low grade infection probably of vaginal origin.

4 and 5. Two ventral hernias operated upon under unfamiliar and very unfavorable operating room conditions over which I had no control. Both developed slight stitch infections which delayed the wound healing a few days in each case.

6. Seven pound fibroid excised from five months' pregnant uterus. Pregnancy not interrupted. After removing the stitches on the thirteenth day a subcutaneous collection of serum and pus was evacuated. No clinical evidence of active infection.

Following one hundred and seventy operations for pathological conditions caused by infection and requiring drainage the sutured portion of the incision healed by primary intention in all but seventeen cases. The ninety per cent of primary unions in this group cannot be ascribed wholly to the use of McDonald's solution. The absence of chemical irritation of the tissues was, I believe, a factor aiding healing in these cases.

To my mind the most important advantage from this solution is not the fact that wounds heal without infection but that they heal with absolutely no evidence of chemical irritation. There is no blistering or peeling of the skin and no oedema of the edges of the incision. Ideal healing has been the almost invariable rule.

Note.—Since writing this paper I have noted the report of the end results of cases operated at the Carney Hospital during the Sixth (Boston) Session of the Clinical Congress of Surgeons[1] in which the use of McDonald's solution is blamed for the epidemic of infections occurring at this hospital during the week of the clinic. Out of twelve clean cases operated on the surgical service on Monday, Wednesday and Friday of this week there were four infections with three deaths due to peritonitis or sepsis, while in the gynecological service working on alternate days (Tuesday and Thursday) there were operated eight clean cases with four infections and one death from peritonitis.

Aside from the fact that the data on which their conclusions are based are in direct conflict with the results of the investigators quoted in my paper I cannot conceive of an epidemic of this virulence being due to faulty preparation of the skin. During the past thirteen years it has been my lot as a laboratory worker and surgeon to investigate several similar operating room epidemics and I must agree with those who believe that such virulent infections are invariably direct contact infections. Individual cases are traceable from patient to patient. In epidemics usually some one in the clinic has a sore finger or a sore throat. If this epidemic blamed to McDonald's solution were really due to faulty skin preparation it would mean that two consecutive cases, number eight a breast case and number nine a clean laparotomy, had each harbored in their skin organisms of such virulence as to cause their death a few days after operation. This is so unlikely as to be incapable of proof by any investigation undertaken some time after the occurrence.

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[1] *Surgery, Gynecology and Obstetrics*, 1916, XXXIII, October, page 13 of Congress Section.

TRANSVERSE INCISION IN UPPER ABDOMEN.

The second advance in technic worthy of note is the use of the transverse incision in the upper abdomen. At the meeting of the American Surgical Association in May, 1916, Moschowitz (12) described a transverse incision for work in the upper abdomen. The arguments in favor of this incision appealed to me and since May, 1916, I have used it for all operative work in the upper abdomen. The results have been far beyond my expectations and I feel that it is a permanent addition to my operative technic.

This incision is made as follows: The site of the incision is selected according to the work to be performed. For gall bladder cases I make the incision on the right side a little below the level of the ninth costal cartilage. The skin incision is carried from just beyond the midline to a point as far laterally as desired. At the outer side of the rectus the incision is carried through the aponeurosis and the peritoneal cavity entered at which time the gall bladder and pylorus can be explored.* Next with the finger in the peritoneal cavity as a guide, four transverse sutures are passed deeply in and out through the anterior sheath of the rectus and the muscle itself. Two of these sutures are passed above and two below the line of incision across the rectus. These sutures are not tied but are clamped and subsequently serve four purposes. First they control hemorrhage from the cut ends of the muscle, second they prevent undue retraction of the muscle, third they serve as retractors during the operation and, fourth when tied at the close of the operation they unite the cut ends of the muscles. After placing the above sutures the incision is enlarged by cutting across one, or both, muscles and laterally as far as desired.

The first advantage to be noted from this incision is that for some reason the abdomen seems to relax and very little packing is required to keep the viscera in place. The second advantage is the great ease with which the organs to be operated can be reached. In stomach work the organ comes normally up to the incision while with the rectus incision one is compelled to work through an opening at right angles to the long axis of the stomach, a defect which can only be corrected by the vigorous use of the retractors. The transverse incision is of even greater advantage in gall bladder work. Retraction of the upper edge of the incision tends to rotate the liver so as to give the best possible access to the ducts which in the average case becomes as easy of access as the ovarian pedicle in pelvic work.

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* Moschowitz first enters the peritoneum through the midline but because of the round ligament and subperitoneal fat at the midline I have found it easier to enter through the linea semilunaris.

Closure of the incision is much easier than in the rectus incision. I am certain that all surgeons appreciate the difficulties often encountered in closing the peritoneum and deep aponeurosis in high rectus incisions. At best it means prolonging full anaesthesia until the incision is practically closed. At worst, and I have witnessed the difficulties in other hands as well as my own, it means stitches continually pulling out and a most unsatisfactory performance until finally the frayed edges of the peritoneum and deep aponeurosis are covered over by the sutures closing the rectus. Many times I have been thankful to have my suturing of the deep aponeurosis hold until I could hide my work by suturing the more superficial structures to say nothing of hoping for a permanent union.

With the transverse incision, on the other hand, the cut edges of the fascia come together without tension. Even the cut ends of the rectus are easily approximated as the mattress sutures are tied.

Post-operative Comfort.—Moschowitz says that his experience with transverse incisions leads him to unhesitatingly state that soon after operation patients with transverse incisions are in every respect more comfortable than patients with vertical incisions. I can subscribe fully to this view. In fact, the remarkable lessening of post-operative discomfort is in my opinion the chief advantage of the incision. My gall bladder cases operated through this incision have asked to be permitted to get up by the end of a week, an experience never before encountered in gall bladder cases. In several instances the nurses have noted the difference and wondered as to the reason. One patient reoperated for a stricture of the common duct following the removal of an impacted stone a year previous tells me that in her case there was no comparison whatever. The first operation was a vertical incision followed by much pain and several weeks of a feeling of insecurity while after the transverse incision there was practically no pain and at the end of a week she asked to be permitted to get up.

As regards subsequent hernias I can only theorize, but from a purely theoretical standpoint this incision should give less hernias than the vertical.

Moschowitz re-examined sixty-seven of his own cases from a few months to six years after operation and did not find a single hernia. Bakes (13) also reports a like number of cases with no hernias.

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THE HAEMATOGENOUS INVASION OF THE CEREBRO-SPINAL AXIS IN POLIOMYELITIS.

(From the Bender Hygienic Laboratory)

Read before the Medical Society of the County of Albany, November 23, 1916.

By LA SALLE ARCHAMBAULT, M. D.,

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Confronting the medical profession of our country during the last few years and more acutely within the last few months, there has been no problem more urgent, more intricate and more elusive than that of poliomyelitis. Much excellent work has already been done and many valuable scientific data have been furnished through the conscientious labors of eminent and indefatigable laboratory investigators. Nevertheless we must frankly admit that we are still far from possessing a satisfactory knowledge of the nature, mode of transmission and path of ingress of the causative agent of poliomyelitis. Taking into consideration the fact that our present supply of information regarding the pathogenesis of poliomyelitis is based essentially upon the results of laboratory researches of a bacteriologic and experimental character, is it not permissible to approach the subject from the standpoint of human pathology and clinical observation? Is it not possible to lend a helping hand to the laboratory investigator and perhaps suggest to him new channels for his exploring genius, by a careful and critical reconsideration of all the facts, anatomo-pathologic and clinical, already at our disposal? Can we not utilize with advantage the accumulated wealth of our scientific acquisitions in the domain of anatomy and neuropathology, and in the realm of general pathology and medicine, in our attempt to elucidate the baffling problem of poliomyelitis? It is my earnest conviction that this most serious puzzle cannot be solved by the lone effort of the bacteriologist or of the laboratory expert, but that it demands the concerted and co-operative effort of all scientists whose activities naturally bring them in contact with one phase or another of this disease.

One fundamental fact which seems to be definitely established is that the causative agent or virus of poliomyelitis is carried directly into the central nervous system. In 1913, Flexner and Noguchi isolated from the tissues of the brain and spinal cord a small filterable micro-organism which they succeeded in cultivating under strict anaerobic conditions and with which they reproduced in monkeys paralytic manifestations and other clinical symptoms practically identical with the clinical picture of human poliomyelitis. This organism or virus was called the "ovoid body" and a similar organism has just been obtained by Rosenow and his co-workers, as an apparently transitional form of a streptococcus exhibiting remarkable polymorphism. The question is, by what avenue does the virus reach the central nervous system?

The prevailing doctrine at the present time is that the causative virus of poliomyelitis, whatever it may be, enters the economy through the naso-pharyngeal mucosa, multiplies there and, after a variable period, invades the brain and spinal cord by way of the lymphatic channels connecting the upper nasal chamber with the interior of the skull (i. e., along the olfactory route). This would account for the extremely common meningeal type of onset (headache, retraction of the neck, Kernig's sign, muscular twitching, transitory strabismus, mental dulness or stupor, etc.), and would find additional confirmation in the fact that the pia mater over the bulb and the base of the brain is regularly involved, even in those cases presenting no cerebral, bulbar, or meningeal symptoms. Thus, implication of the ventral meninges of the brain and cord would be the initial lesion in poliomyelitis. This assumption does not appear to me to be substantiated either by the clinical evolution of the disease or by careful study of the lesions found in fatal cases.

A meningeal syndrome clinically, while far from constant, is certainly very common, but it does not necessarily indicate primary involvement of the basilar or ventral meninges. Most of the signs of meningeal irritation observed in poliomyelitis likewise occur in the so-called meningismus or meningism which not infrequently characterizes the onset of various acute infectious diseases in children, notably scarlet fever, lobar or lobular pneumonia, typhoid fever, influenza, etc., and in all of which, as in poliomyelitis, the meningeal syndrome clears up usually in the course of a few days. We certainly will not speak of abortive meningitis in such cases. It may be objected that in poliomyelitis we have clinical evidence, furnished by lumbar puncture, that the meninges are actually diseased, that positive findings in the cerebro-spinal fluid are encountered in the vast majority of cases. Let it suffice to state that a positive butyric acid reaction and a discreet lymphocytosis do not at all signify primary or active meningeal disease, particularly when lumbar puncture is performed, as it usually is, after the child has already been ill two or three days, or else when actual paralysis has appeared. Positive findings at this time simply prove meningeal implication; they do not establish the priority of the meningeal process. Is it not a fact moreover that the cerebro-spinal fluid findings are more accentuated after a week or ten days despite the clinical abatement of the meningeal manifestations?

The pathological anatomy of poliomyelitis clearly indicates that the histological changes in the cord and brain are not secondary to an initial meningeal invasion. My contentions are based upon careful and repeated study of the lesions in a series of only five cases, but in all of them the changes are identical, the only difference being in the level of maximum involvement. The pia and arachnoid, even the dura, are certainly diseased in poliomyelitis, in some cases the meningeal involvement attains considerable extent, but in all cases and at all levels the meningeal process is directly proportionate to and infinitely less severe than the intra-medullary or intra-cerebral lesions. In contradistinction to the other definitely established meningeal lesions (epidemic, tuberculous, purulent and other forms of meningitis) the meningeal reaction of poliomyelitis is characterized only by tremendous engorgement of the blood vessels, even haemorrhagic extravasations, and by relatively discreet lymphocytic infiltrations. There is no fibrin network and little or no endothelial desquamation. In its relation to the cord and brain themselves, the meningeal process is also peculiar in this respect that it does not invade the underlying or marginal portions of the brain and cord along the perivascular lymph spaces of the small vascular twigs which pass directly from the pia into the parenchyma. On the contrary, the foci of disease in the cord and brain stem are deep-seated instead of superficial, and the perivascular lymphocytic agglomerations are most marked in the proximity of the central canal and deeper parts of the cord, the degree of infiltration decreasing as we consider the more peripheral or marginal zones.

As regards the lesions found within the cord and brain-stem they have been well described by others and it would be time wasted to detail anew the interesting and rapidly evolving chromatolytic changes in the multipolar cells of the anterior horns and the corresponding cells of the cranial nerve nuclei. I shall insist, however, upon the character and distribution of the vascular lesions. In the cord they are most marked in the central

To illustrate Dr. Archambault's Article on "The Haematogenous Invasion of the Cerebro-Spinal Axis in Poliomyelitis"—Albany Medical Annals, January, 1917

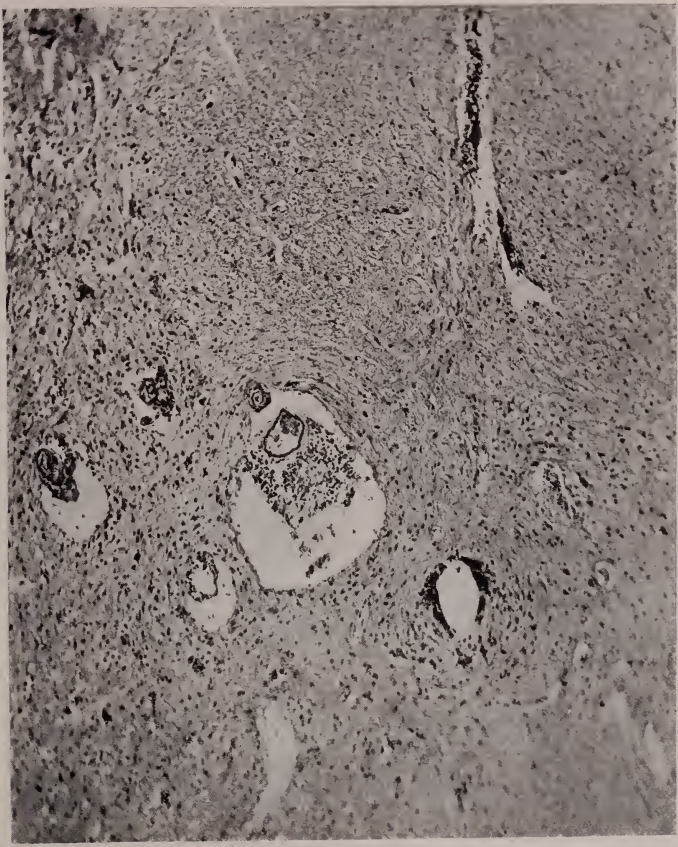

FIG. 1.—Shows lymphocytosis in anterior median fissure and lateral to patent central canal.

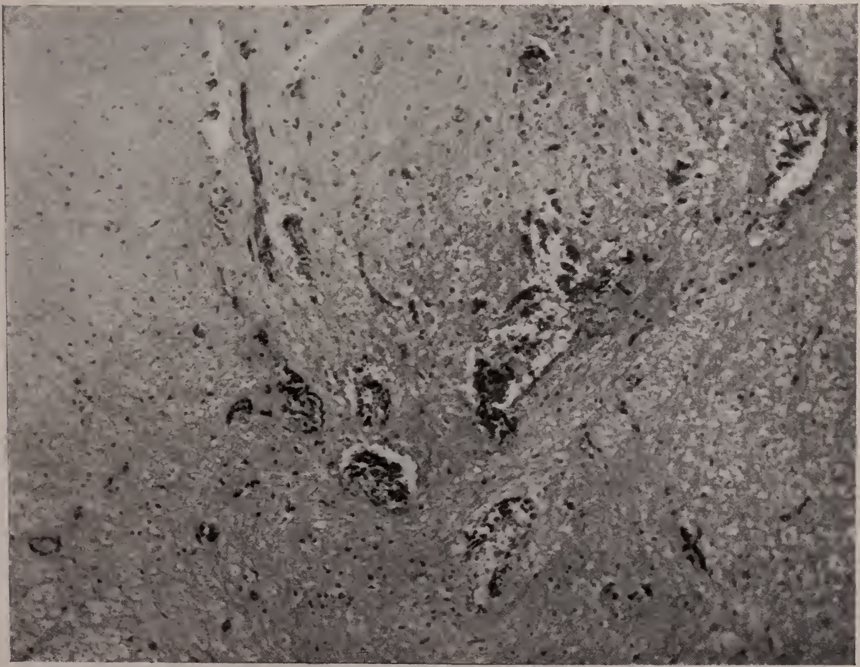

FIG. 2.——Showing marked perivascular lymphocytic infiltration throughout posterior horn.

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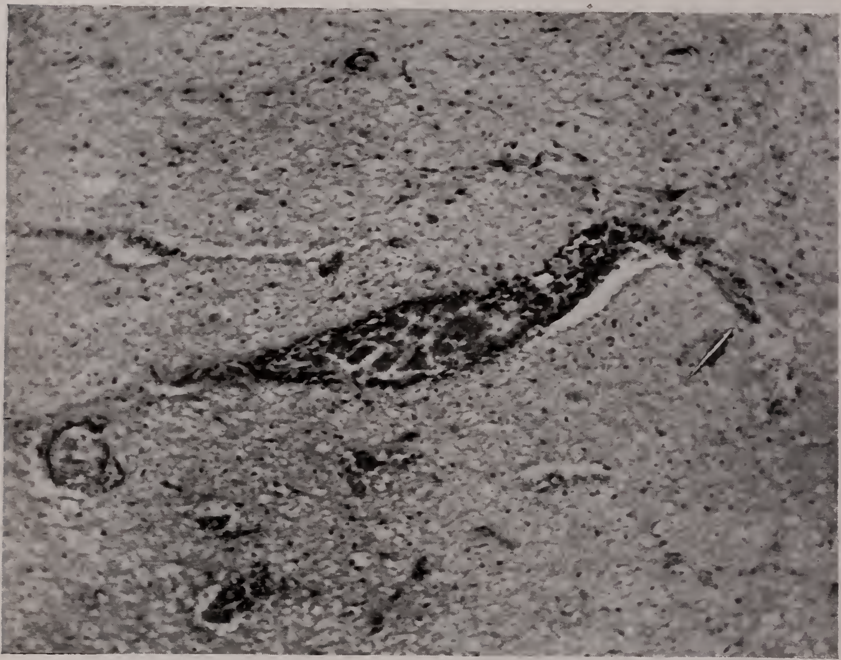

Fig. 3.—Perivascular lymphocytosis in deep portion of lateral column.

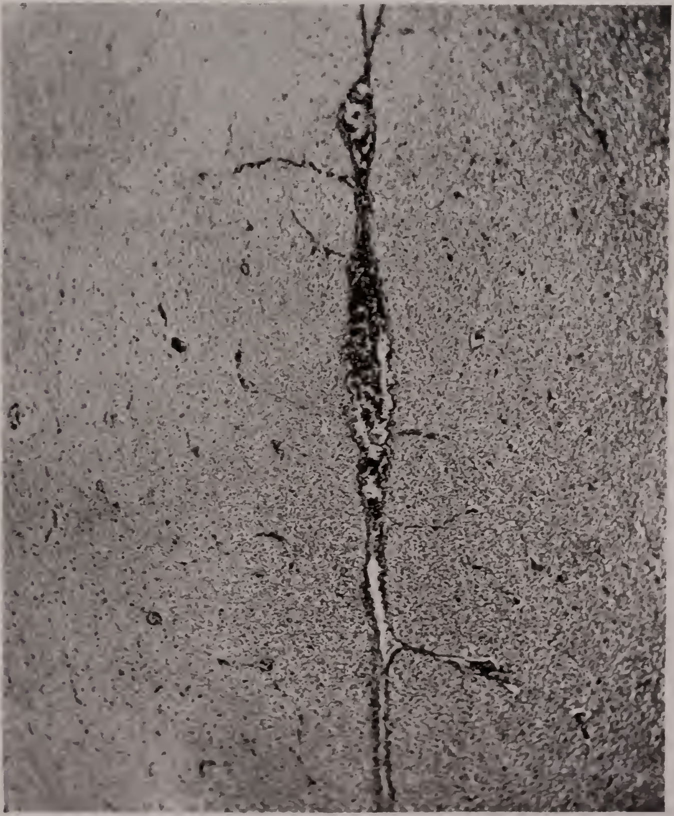

Fig. 4.—Perivascular lymphocytosis along posterior median septum.

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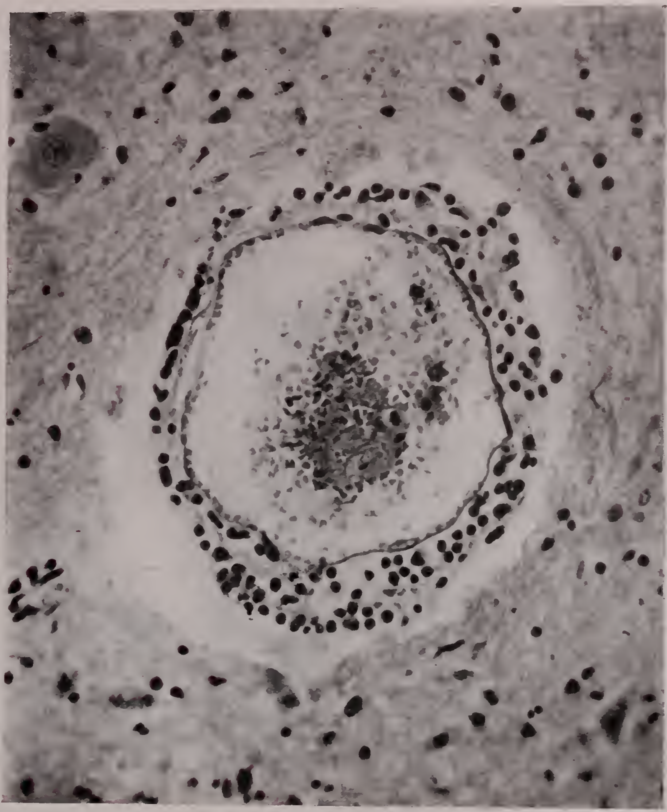

Fig. 5.—Same but higher magnification. Perivascular lymphocytosis of vein in gray matter.

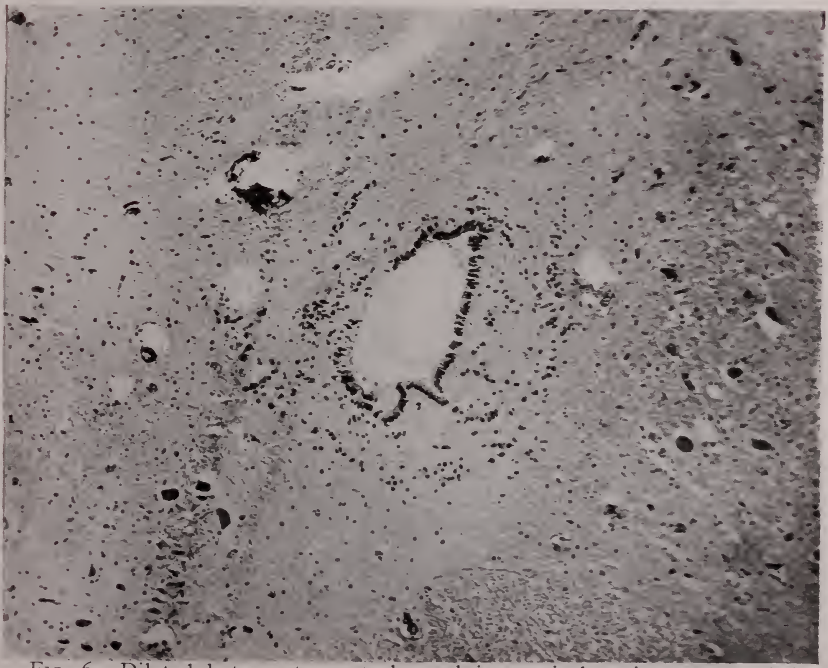

Fig. 6.—Dilated but empty central canal in cervical region, surrounded by interstitial lymphocytosis.

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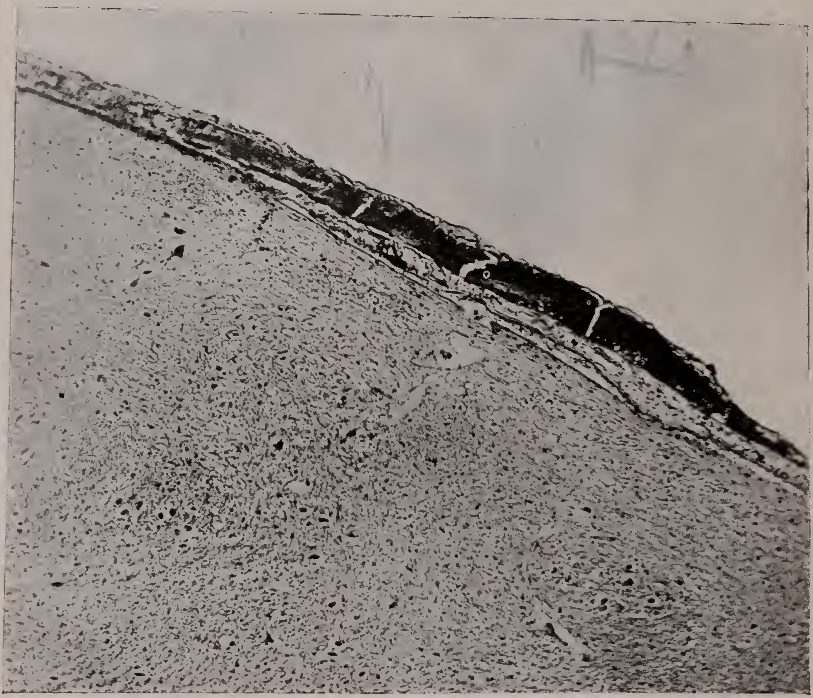

FIG. 7.—Venous haemorrhages in posterior meninges of medulla overlying the nuclei gracilis et cuneatus.

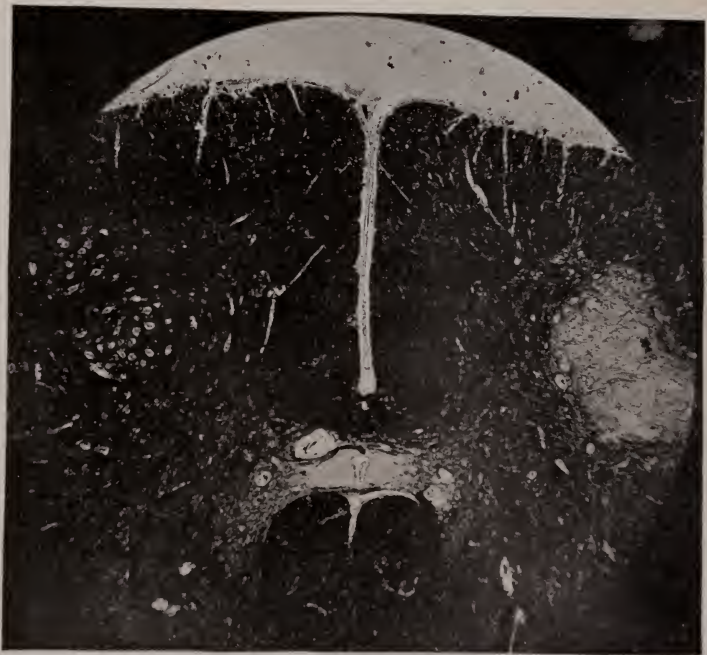

FIG. 8.—Cicatricial stage of poliomyelitis showing empty anterior horn on one side and disappearance of the gray matter surrounding the central canal.

gray matter ventral to the central canal and in the anterior horns, but they are equally present and sometimes well marked in the posterior horns and in the deeper parts of the lateral columns where small haemorrhagic extravasations are not uncommon. The lesions consist mainly of exaggerated perivascular lymphocytic agglomerations (particularly about the veins) and equally well-marked interstitial lymphocytosis, the perivascular lymph spaces are unusually distended and the parenchyma itself in many places has the peculiar cribriform appearance of rarefaction or vacuolization seen in myelomalacia and encephalomalacia. The capillaries and small veins are often choked with red blood cells; but actual thrombosis of the smaller arterioles in our cases could not be positively demonstrated. In the brain stem the lesions in point of character are absolutely identical but are found mainly in and about the various nuclei, both motor and sensory, situated in the subventricular segment of the formatio reticularis, though likewise along the course of the central branches of the so-called root arteries (supplying the nucleus ambiguus, the facial nucleus, etc.). Haemorrhages were seen in the pia covering the dorsal aspect of the medulla, but otherwise the meningeal reaction at this level was far less marked than in the spinal pia. The lesions observed in this series of cases correspond in general with those described by others in carefully reported cases. A fact which stands out prominently is that the lesions, in point of topography, coincide in the cord almost absolutely with the distribution of the anterior and posterior spinal arteries, and in the brain stem with that of the posterior inferior cerebellar arteries, though likewise with that of the radicular branches of the basilar artery. All these arteries, though reinforced below by branches from other vascular trunks, are derived on either side from one parent arterial stem, the *vertebral artery*. It seems that this should suffice to definitely establish the fact that in poliomyelitis the brain and cord receive the infectious agent through the blood stream and in no other way. This alone would fully explain the massive paralysis of all four extremities not infrequently observed in less than twelve hours. Moreover, in accordance with the well-known mechanism of embolic transmission, poliomyelitic foci either in the brain or brain-stem or even in the cervical enlargement seem to be distinctly more common on the left side. In some cases the virus evidently gains access to the internal carotid artery instead of the vertebral, and we have the cortical or encephalitic type of poliomyelitis (identical with Strümpell's acute haemorrhagic cortical encephalitis).

It was noted above that the lesions in the cord and brain-stem exhibit very much the same appearance that characterizes acute softening, and yet there is no evidence of gross vascular occlusion either by thrombi or emboli. A mechanism, however which must be seriously considered is the part played by that much neglected organ, the sympathetic system. I will simply draw attention to the fact that in poliomyelitis the lesions in the cord are most severe in front of and lateral to the central canal, and, in the brain-stem, in the median segment of the subventricular gray matter, that is to say, exactly where we localize the cell complexes giving origin to the medullated fibres which accompany the outgoing root filaments to then join the sympathetic ganglia. It must be remembered that a double interchange probably exists between these structures and that non-medullated fibres course in the opposite direction, i. e., from the gangliated cord to the central gray matter, and that each level or segment either in the cord or brain-stem has a definite relation to a corresponding sympathetic centre. When we consider that a virulent agent like that of poliomyelitis is suddenly thrown into the cerebro-spinal circulation and floods the central gray matter over massive extents, it is easy to conceive how great must be the shock communicated to the sympathetic apparatus and how severe and widespread the reactive vascular spasm thus occasioned in either the spinal or bulbo-cerebellar branches of the vertebrals or even in both arterial sets at the same time. This vascular spasm is evidently of sufficient severity and duration to determine all the secondary circulatory disturbances seen in actual occlusion of the larger arterial branches and gives rise to the same venous reflux or engorgement with consequent transudative oedema and even meningeal and intra-medullary extravasations. That this actually takes place in poliomyelitis is shown by the general enlargement of the cord and brain-stem and the reopening of the central canal, in some cases at least, by the presence of generalized congestion of the meninges, the occurrence of extravasations previously noted and the recoil of blood even into the larger arterial branches at the level of the cervico-bulbar region. In this connection it must not be forgotten that the veins of the central nervous system possess no valves and that it is not unusual to find blood in the spinal arteries, particularly in the dorsal and lumbo-sacral regions. No theory can account for the abrupt, almost apoplectiform, onset of coma or of quadriplegia with subsequent integral recovery of cerebral function or minimum residual palsy of one or two extremities except severe oedema of the cerebro-spinal axis due to vascular spasm of the larger arterial branches. Naturally the fact that an oedema of the brain and spinal cord is not always demonstrable at the autopsy does not in the least invalidate this assumption; the frequent difficulty of securing immediate autopsy, the rapid occurrence of post-mortem changes in the summer heat and the ease with which errors of technique are committed are all factors to be remembered.

Viewed in this light the meningeal reaction of poliomyelitis is simple enough to classify; it is a passive, reactive or secondary process, following the initial deposition of the poliomyelitic virus within the cerebro-spinal gray matter. The tremendous engorgement of the pial blood vessels gives rise to transudation of serum, sometimes to haemorrhagic extravasations. The lymphocytes and rare polynuclear leucocytes may likewise migrate from the interior of the pial vessels but it must not be forgotten that they can reach the subarachnoidean space through the perivascular lymph channels and that the subarachnoidean space represents the eliminative path or emunctory of the cerebro-spinal axis. The presence of the butyric acid reaction and of discreet lymphocytosis requires no further explanation in my opinion. I believe that in the course of an epidemic these findings are of extreme value, but that they by no means prove the case to be one of poliomyelitis and conversely that a negative spinal fluid in no way serves to exclude this diagnosis.

From the foregoing considerations, it seems logical to regard poliomyelitis as a general or systemic acute infectious disease, analogous at least in some respects to certain other infections such as typhoid fever, tuberculosis, etc., and in which micro-organisms are actually thrown into the blood stream; in other words, to classify the disease under the heading of septicaemia. To refuse to admit this on the ground that thus far, in poliomyelitis, no micro-organism has been isolated from the blood is perhaps a very regrettable excess of loyalty on the part of the bacteriologist and there are other diseases which we regard as instances of septicaemia although the causative micro-organism still remains to be found, notably yellow fever. It is not impossible that the main difficulty arises from our present lack of suitable culture media and staining reagents, and furthermore clinical observation proves that the virus, admitting that it does enter the general circulation, quickly leaves it again. This would certainly seem to be borne out by the relatively insignificant and usually evanescent character of the initial systemic reaction, i. e., fever, general malaise, headache, vomiting, drowsiness, etc.

Why this septicaemia gives rise exclusively or predominantly to lesions in the cerebro-spinal axis may be accounted for in one of two ways. In the first place, we may assume with perfect right that the causative organism of poliomyelitis has a selective affinity for the nervous system in the same way that the pneumococcus has a special predilection for the lungs and the typhoid bacillus for the digestive tract. In the second place, the deposition of the causative micro-organism of poliomyelitis within the cerebro-spinal axis is favored by the peculiar structure of the blood vessels found within these viscera. It is to be remembered that the arterioles contain adventitial lymph spaces, that the capillaries are extremely minute, often devoid of a muscular coat and represented merely by endothelial tubes surrounded by wide lymph spaces without definite limiting walls. Furthermore, the perivascular lymph spaces are continuous with the pericellular spaces and these in turn send filiform channels within the interior of the larger nerve cells, known as the canals of Holmgren. When all these facts are taken into consideration, and finally when we note that in the great majority of cases the paralytic disorders develop some time during the night when there is a natural or physiological stasis in the more dependent parts of the body and particularly in the dorso-lumbar region, it is evident that ideal conditions are realized for the reception of the poliomyelitic virus within the bulbo-medullary parenchyma. I nevertheless believe that the virus has a definite or specific affinity for certain structural elements of the nervous system and will take up this feature in a later publication. It should be stated, however, that in poliomyelitis lesions do occur in other organs. In the Bender Laboratory autopsy records we note marked congestions in the lungs, the spleen and the kidney; they are possibly due to disorders of vascular and secretory innervation resulting from the intense sympathetic irritation previously discussed. In fact, I am inclined to believe that the sympathetic ganglia are themselves the seat of elective changes and feel that in the future they should be systematically examined. As regards the posterior spinal ganglia, they have been found diseased in a number of cases and definite lesions were present in two of our cases. The lesions here consist of haemorrhagic extravasations in the fibrous capsule and of degenerative changes in the ganglion cells but without apparent lymphocytic infiltrations.

There are many other important facts to be discussed in connection with the poliomyelitis problem, but they naturally cannot all be properly exposed at one sitting. However, I cannot refrain from adding a few remarks regarding certain possibilities pertaining to the mode of transmission of poliomyelitis. While my absolute inexperience in the domains of bacteriology and animal experimentation precludes any positive assertion, I must confess that I am morally convinced that the virus of poliomyelitis is transferred from one subject to another, in large part at least, through the medium of insects. Evidently, I fully realize how difficult it will be to prove this, but I feel that I am justified in my belief by certain facts which I have had occasion to observe clinically as well as by the lessons already learned in regard to other infectious diseases. What insects are particularly concerned in the task of disseminating poliomyelitis, I naturally cannot state positively, although I firmly believe that the mosquito deserves first consideration. The fact that experiments with mosquitoes have failed does not appear to me disconcerting in the least and I have wondered why we should not apply here the same logic which the laboratory has so wisely adopted for negative results in general. We are in the habit of saying that a negative reaction is devoid of significance and that a positive reaction alone deserves recognition. It will be remembered that Rosenau and later Anderson and Frost succeeded in transmitting poliomyelitis from the infected monkey to the healthy monkey through the agency of the stable-fly. Subsequent trials failed and the value of the experiment was allowed to wither away. It is practically impossible to reproduce in the laboratory conditions identical with those existing in nature and should we not regard our failures in this connection as the necessary outcome of procedures carried on under absolutely artificial circumstances? We have had at the contagious pavilion of the Albany Hospital a series of twenty-eight cases of poliomyelitis which it has been my privilege to see several times through the courtesy of Dr. Arthur Sautter, health officer of the city of Albany, and of Dr. Charles K. Winne, who has had immediate charge of this department. At my request, Dr. Sautter has kindly put himself to the task of interviewing the families of the patients and of making inquiries regarding mosquito bites within three or four weeks prior to the onset of symptoms. The results transmitted to me may be summed up as follows:

1. In nine cases no information could be obtained because the people were out of town or lived in remote cities.
2. In twelve cases the statement was made that the child was not bitten and that no mosquitoes were seen about the premises. This of course must be accepted with considerable reserve unless it can be shown that the children actually did not leave the premises during the suspected period.
3. In seven cases it was learned that the child was more or less bitten during the summer, though not during the time immediately preceding the illness. It may be stated here that we have no positive knowledge regarding the incubation period of poliomyelitis. I believe that it may vary considerably under different conditions and will call attention to the fact that such is the case in other infectious

diseases with elective cerebro-spinal localizations, namely, tetanus and rabies.

Finally, I have absolute proof that in four cases the patient was bitten by mosquitoes within a period varying from two to four weeks prior to the appearance of symptoms and in all of these instances the patients lived in districts from which poliomyelitis cases had already been removed.

I have spoken of the mosquito in particular because in these regions it is the biting insect which most easily and commonly gains access to the dwelling of man irrespective of his social and occupational status, but I do not believe that the mosquito is the only biting insect which may transmit poliomyelitis to the human being. The biting fly, the flea and even the spider and bee may be occasional inoculators. In one of our cases the patient was bitten on the tongue by an ant about one month prior to the development of the disease. The rôle of the ordinary house fly is difficult to correctly appraise, but it is my conviction that it plays a very important part, particularly in the way of taking up the organism from the secretions and excretions and serving, so to speak, as a culture medium. In this connection I have noted that poliomyelitis patients are usually bathed in perspiration and that flies are decidedly busy in their proximity. Of course, while difficult to prove, it is not unlikely that the causative agent of poliomyelitis is cast out of the economy through all the eliminative channels, not only through the naso-pharyngeal secretions and intestinal tract, but through the sweat and sebaceous glands, and flies have a very definite preference for those parts of the body noted for their active sudoriparous function. I doubt very much if the mosquito transfers the disease directly from one individual to another and prefer to believe on the contrary that it gets its supply from the fly either directly or indirectly, or else that the organism, taken up by the mosquito, first passes through intermediate developmental stages. It is a well-known fact that mosquitoes attack some of the lower animals and I have actually seen them attack large flies. Whether the ordinary house fly can convey the disease directly would seem doubtful, except in the presence of wounds or abrasions on the skin and mucous surfaces, and I only need to recall that children have the very bad habit of unduly picking their noses and I have repeatedly seen flies feeding at the nostrils of sleeping children and adults. Naturally, it is not impossible that contaminated excreta may likewise come in contact with abraded surfaces or that small punctured wounds, apparently innocent, may be the mode of infection in rare cases.

In regard to the fly, other observations of importance should be recalled and more especially the studies of Robineau-Desvoidy concerning the activities of the *calliphora vomitoria* and even more particularly of the *calliphora* or *lucilia macellaria.* This fly is widely distributed over North America and over large sections of South America and deposits its eggs in the wounds of domestic animals and man and likewise in the natural cavities. It carries on its operations on man while the latter is sleeping and the larvae penetrating into the nasal fossae have produced alarming symptoms and even death. Such are the facts which I have gleaned from Guérin's French Encyclopedic Dictionary and they appear to me sufficiently interesting to be incorporated in the present article. Incidently, attention may be directed to the fact that in reproducing poliomyelitis in monkeys by rubbing the virus upon the nasal mucosa, it is not merely a question of inoculating mucous membrane, but of directly inoculating the nervous system, the olfactory nerve cells being freely distributed among the true epithelial structures and therefore immediately accessible. Thus, the ectodermal ingress and localization of the poliomyelitis virus would seem definitely established from the start in the experimental laboratory. In the human being, the nose is probably a very common seat of entry, but I believe that the virus may enter the economy at any point of our extensive ectodermal covering. As regards non-experimental paralytic disorders observed in some of the lower animals (poultry, dogs) I have seen several such instances and fail to understand in what respect they differ from the clinical phenomena of human poliomyelitis.

I do not hesitate to say that I do not believe in the direct contagiousness of poliomyelitis although I firmly believe in the danger arising from so-called abortive cases and healthy carriers, but, in my opinion, the transmission of the disease does not occur as the result of direct contact but through intermediate agencies, and I firmly believe that, in our country at least, the fly and the mosquito are common and important agents of transmission. I do not maintain that they are the necessary agents. Another feature which may be of some significance is that, in a certain measure at least, cases of poliomyelitis in our territory have been more or less grouped in districts in which extensive building operations were being, or had recently been carried on, necessitating considerable excavation and upturning of soil long excluded from air and sunlight; a similar relationship to repaving of streets and opening of new streets should be mentioned.

In terminating, I take the liberty of formulating, in a more or less provisional fashion, the following conclusions:

1. The virus of poliomyelitis is carried into the central nervous system through the blood-stream and particularly by way of the vertebral artery and its distribution.
2. The virus exerts its deleterious action upon the nervous tissue in part as the result of local toxaemia and in part as the result of vascular disturbances due to direct irritation of the sympathetic apparatus.
3. Poliomyelitis is an acute infectious and communicable disease of the entire organism but with elective localizations in the central nervous organs. Transmission probably does not occur by direct contact but largely through the intermediate agency of insects having both in-door and out-door activities.
4. The incubation period of the disease in man is not positively known and probably shows considerable variations under different conditions.
5. Poliomyelitis should probably be classed among the diseases common to man and animals.
6. Until more scientific certainties are available, all children of susceptible age in a given community should be absolutely protected from insects, the moment that poliomyelitis appears in epidemic form.

Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.
ABSTRACT OF VITAL STATISTICS, NOVEMBER, 1916.
COMPILED BY WILLIAM F. FULLGRAFF, REGISTRAR.

Deaths.

Consumption	25
Typhoid fever	1
Scarlet fever	0
Measles	0
Whooping cough	1
Diphtheria and croup	0
Grippe	0
Diarrheal diseases	3
Pneumonia	3
Broncho-pneumonia	6
Bright's disease	12
Apoplexy	11
Cancer	9
Accidents and violence	8
Deaths under one year	16
Deaths over seventy years	27
Death rate	17.70
Death rate less non-residents	15.70

Deaths in Institutions.

	Non-Resident.	Resident.
Albany Hospital	5	10
Albany Hospital Camp	3	7
Homeopathic Hospital	2	7
St. Peters Hospital	1	1
Home for the Aged	1	1
Hospital for Incurables	0	2
St. Vincent Male Orphan Asylum	0	1
Convent Sacred Heart	0	1
Maternity Hospital	1	1
St. Margaret House	1	1
Albany County Hospital	3	1
Public places	2	3
	19	36

Births	189
Still births	3

BUREAU OF COMMUNICABLE DISEASE.

Cases Reported.

Typhoid fever	6
Scarlet fever	5
Diphtheria and croup	8
Chickenpox	54
Measles	2
Whooping-cough	0
Tuberculosis	43
Mumps	1
Anterior poliomyelitis	4
Septic sore throat	1
Total	124

Number of days quarantine for scarlet fever:

Longest	35	Shortest	30	Average	32 4/5

Number of days quarantine for diphtheria:

Longest	20	Shortest	15	Average	17 1/4

Fumigations:

Houses	23	Rooms	136

Milk bottles disinfected........ 51

COMMUNICABLE DISEASE IN RELATION TO SCHOOLS.

	Reported Deaths. D.S.	F.M.
Public School No. 10	1	..
Public School No. 12	..	1
Public School No. 14	..	1
Public School No. 18	..	1
High School	..	1
New York State Normal College	1	...
Lady Help of Christians	1	..

TUBERCULOSIS.

Living cases on record November 1, 1916		619
Cases reported:		
By card	43	
Dead cases by certificate	0	
		43
		662
Dead cases previously reported	25	
Dead cases not previously reported	0	
		25
Living cases on record December 1		637
Total tuberculosis death certificates filed during November, 1916		25

Non-resident deaths:		
St .Margaret's House	1	
Albany Hospital Camp	4	
		5
Resident deaths		20

Visits to Cases of Communicable Disease.

Tuberculosis	30
Carcinoma	3
Total	33

Physicians visited	9
Visits to quarantined houses	8
Investigations	54

Bender Laboratory Report.

Diphtheria.

Initial positive	21
Initial negative	294
Release positive	13
Release negative	74
Suspicious	4
No growth	10
Total	416

Sputum for Tuberculosis.

Positive	22
Negative	94
Total	116

Widals.

Positive	7
Negative	15
Suspicious	9
Total	31
Wassermann tests	129

Bureau of Nuisances.

Complaints made	35
Inspections	39
Plumbing	23

Sanitary	16
Reinspections	64
Plumbing	17
Sanitary	47

Hearings.

Cases heard before health officer	1

Nature of Case.

Filthy premises	1

Disposition of Case.

Ordered for reinspection	1

Bureau of Plumbing, Drainage and Ventilation.

Inspections	240
Old houses	55
New houses	185
Permits issued	108
Plumbing	83
Building	25
Plans submitted	45
Old buildings	13
New buildings	32
Houses tested	48
Blue or red	1
Peppermint	2
Water test	45
Houses examined	25
Re-examined	55
Valid	13
Without cause	12

Dead Animal Report.

Horses removed	31
Dogs removed	192
Cats removed	246
Total	469

Bureau of Markets and Milk.

Public market inspections	23
Market inspections	116
Fish market inspections	13
Packing house inspections	2

Rendering plant inspections	3
Slaughter house inspections	1
Hide house inspections	3
Milk depots inspected	8
Milk houses inspected	80
Milk cans inspected	225
Dairies inspected	80
Cows examined	1,195
Cows quarantined	2
Cows removed	3
Fat tests	24
Sediment tests	88
Chemical tests	24
Bacterial counts	32
Special bacterial examinations	24
Complaints investigated	1

MISCELLANEOUS.

Cards posted for contagious disease		15
Cards removed		10
Notices served on schools		123
Notices served on factories		2
Notices served on stores		3
Postal card returns sent to doctors		15
Postal card returns received from doctors		10
Inspections and reinspections		18
Work certificates issued to children		27
Vaccinations		32
Cases assigned to health physicians		56
Calls made		93
Garbage collected from the first district	bbls.	179
Garbage collected from the second district	bbls.	181
Garbage collected from the third district	bbls.	170

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR NOVEMBER, 1916.—Number of new cases during month, 228; classified as follows: Dispensary patients receiving home care, 30; district cases reported by health physicians, 6; charity cases reported by other physicians, 53; moderate income patients, 74; metropolitan patients, 65; old cases still under treatment, 498; total number of cases under nursing care during month, 726. Classification of diseases for the new cases: Medical, 41; surgical, 20; gynecological, 7; obstetrical under professional care, mothers 46, infants 40; eye and ear, 1; skin, 0; throat and nose, 2; dental, 0; infectious diseases in the medical list, 71; surgical list, 0. Disposition: Removed to hospitals, 23; deaths, 23; discharged cured, 116; improved, 29; unimproved, 10; number of patients still remaining under care, 525.

Special Obstetrical Department.—Number of obstetricians in charges of cases, 1; students in attendance, 1; nurses, 1; patients carried over from last month, 1; new patients during month, 1; patients discharged, 1; visits by head obstetrician, 0; by attending obstetrician, 5; by students, 9; by nurses, 8; total number of visits for this department, 22.

Visits of Guild Nurses (all departments).—Number of visits with nursing treatment, 1,314; for professional supervision of convalescents, 648; total number of visits, 1,962; paid patients, 944; charity patients, 370; unrecorded patients, 648; cases reported to the Guild by 5 health physicians, and 50 other physicians, graduate nurses 7, certified nurses 2, pupil nurses 5 on duty.

Dispensary Report.—Number of clinics held, 93; new patients, 122; old patients, 419; total number of patients treated during month, 541. Classification of clinics held: Surgical, 13; nose and throat, 6; eye and ear, 17; skin and genito-urinary, 6; medical, 12; prenatal, 3; lung, 9; dental, 0; nervous, 4; stomach, 4; children, 12; gynecological, 7.

St. Peter's Hospital.—The following staff appointments have been announced: Chief surgeon, Dr. A. W. Elting; attending surgeons, Drs. J. A. Cox, Marcus Cronin, Christian Hacker and Frederick Myers; attending physicians, Drs. Henry Hun, A. MacFarlane, J. P. O'Brien and James Rooney; assistant surgeons, J. L. Donhauser, R. B. Gray and J. F. Heffernan; assistant physicians, Nelson Fromm, Clinton B. Hawn and L. Whittington Gorham; ophthalmic and aural surgeons, Drs. G. L. Munson and L. F. Adt; obstetric surgeons, Drs. J. F. Reilly and Emory Lochner; skin and genito-urinary diseases, Drs. James W. Wiltse and Joseph A. Lanahan; nose and throat, Dr. Clement Theisen; radiographer, Dr. W. H. Happel; neurologist, Dr. La Salle Archambault; resident physicians and surgeons, Drs. F. J. Maguire, Lester Sanford, T. D. Reed and Raymond Persons.

Dispensary staff: Surgical clinic, Drs. J. A. Cox and J. F. Heffernan; medical, Dr. N. K. Fromm, C. B. Hawn and L. W. Gorham; nose and throat, Drs. C. F. Theisen and John P. O'Keefe; eye and ear, Drs. G. F. Munson and L. F. Adt; skin and genito-urinary clinic, Drs. J. W. Wiltse, J. A. Lanahan and John F. Southwell; diseases of children, Dr. Richard A. Lawrence; diseases of women, Dr. J. A. Cox.

Medical Society of the County of Albany.—The regular meeting of the Medical Society of the County of Albany was held at the Albany County Court House, Thursday, December 21st at 8.30 p. m. The following program was presented: "Reproduction in its Relation to Defectives and the Feeble-Minded," Dr. F. C. Conway; "Foreign Bodies in the Eye and their Removal," with lantern slide demonstration, Dr. A. J. Bedell; "Anomalies of Growth Dependent upon Pituitary Disturbance," Dr. J. F. Rooney. The following were elected members of the Society: Drs. Julius J. Padula, James M. Keeling, William B. D. Van Auken and Charles E. Stott.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.—The regular annual meeting of the Medical Society of the County of Schenectady was held at the Mohawk Club, Tuesday, December 12, 1916, at 8.30 P. M. Scientific program: President's address, Dr. Albert Grussner; election of officers.

THE MEDICAL SOCIETY OF THE COUNTY OF RENSSELAER.—The annual meeting of the Medical Society of the County of Rensselaer was held in the Central School Auditorium, Wednesday evening, December 13, 1916, at 8.30 P. M. Dr. George Draper, Rockefeller Institute, read a paper on "Infections of the Cerebro-spinal Space;" Dr. Charles A. Elsberg of New York city, presented a paper on "Recent Advances in our Knowledge of Spinal Disease and their Importance to the General Practitioner and Surgeon."

SARATOGA SPRINGS MEDICAL SOCIETY.—The regular meeting of Saratoga Springs Medical Society was held at the Elks Club, Friday, November 24th, at 8.30 P. M. Dr. Thomas Ordway, of Albany, presented a paper on "Certain Phases of Clinical Cardiac Physiology."

MEETING OF THE AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY.—The twenty-first annual meeting of the American Academy of Ophthalmology and Oto-Laryngology was held at Hotel Chisca, Memphis, Tennessee, December 11th, 12th and 13th, 1916. The following papers were presented: President's Address, Dr. J. E. Brown, Columbus, Ohio; "The Internal Secretory System and the Eye," Dr. R. S. Lamb, Washington, D. C.; "Importance of the Internal Secretions in Eye, Ear, Nose and Throat Affections with Special Reference to the Hypophysis," Dr. Joseph Beck and Dr. H. L. Pollock, Chicago, Ill.; "Tuberculosis of the Retinal Vessels," Dr. F. R. Spencer, Boulder, Colo.; "Permanent Occlusion of the Superior Branches of the Central Artery, probably due to Thrombosis of the Central Vein of the Retina," Dr. G. W. MacKenzie, Philadelphia, Pa.; "Congenital Partial Absence of Retinal Pigment Layer of Iris in Both Eyes,." Dr M. Feingold, New Orleans, La.; "Renal Choked Disc." Dr. W. F. Hardy, St. Louis, Mo.; "Epithelioma of the Conjunctiva," Dr. W. H. Crisp and Dr. W. C. Finnoff, Denver, Colo.; "Iridostasis in Glaucoma," Dr. Edward Stieren, Pittsburgh, Pa.; "Pressure Changes in the Curvature of the Cornea due to Chalazion and other

Lid Tumors," Dr. T. W. Moore, Huntington, W. Va.; "Simplified Tonsil Enucleation," Dr. A. A. Hayden, Chicago, Ill.; "A Modern Method of Tonsillectomy," "A New Tonsillectomy Snare," Dr. G. E. Gwinn, San Antonio, Texas; "The Tonsil as the Atrium of Infection in Poliomyelitis," Dr. E. M. Seydell, Wichita, Kan.; "The Correction of Nasal Deformities by the Transplantation of Bone and Cartilage" (lantern demonstration, Dr. W. W. Carter, New York City; "Osteomyelitis of the Skull, in a Case of Pansinusitis Suffering from Tuberculosis and Syphilis Contracted with Brain Abscess, Double Mastoiditis, and Removal of Numerous Sequestra with Recovery," Dr. H. A. Beaudoux, St. Paul, Minn.; First Vice-President's Address, Dr. T. E. Carmody, Denver, Colo.; "Case Reports: Lantern Slide Demonstration of Roentgenographic Findings of Blind Dental Abscesses Causing Accommodative Asthenopia and of an Unusually Large Myxofibroma Removed from the Nasal Passage," Dr. C. B. Fulkerson, Kalamazoo, Mich.; "Scleral Trephining in Detachment of Retina," Dr. John Green, Jr., St. Louis, Mo.; "Limitations of Tonometry," Dr. E. Jackson, Denver, Colo.; "The Problems of the Deaf," Dr. M. A. Goldstein, St. Louis, Mo.; "Campimeter Versus Arc Perimeter," Dr. L. C. Peter, Philadelphia, Pa.; "Ring Scotoma as Related to Choroidal and Optic Nerve Disease," Dr. W. Reber, Philadelphia, Pa.; "Visual Fields in Pellagra," Dr. F. P. Calhoun, Atlanta, Ga.; "The Surgery of the Temporomandibular Articulation," Dr. L. W. Dean and Dr. W. F. Boiler, Iowa City, Ia.; "A New Method of Acquiring Operative Ophthalmic Technique," Dr. W. A. Fisher, Chicago, Ill.; "Treatment of Cataract at the Central Branch of the National Military Home," Dr. J. W. Millette, Dayton, O.; "Surgical Technique in Excision of the Tarsus for Trachoma," Dr. G. F. Suker, Chicago, Ill.: "A Case of Deviation Upwards of the Right Eye, due to a Spasm of the Inferior Oblique, Secondary to Congenital Paresis of the Superior Rectus of the Left Eye," illustrated by moving pictures, Dr. Frank Todd, Minneapolis, Minn.; "Ocular Disturbances due to Malaria and Quinine," Dr. J. S. Fernandez, Havana, Cuba; "Report of a Case of Parinaud's Conjunctivitis," Dr. H. V. Dutrow, Dayton, Ohio; "Carcinoma of the Middle Ear, with Report on an Unusual Case," Dr. Horace Newhart, Minneapolis, Minn.; "Endoscopy as a Diagnostic Aid, in Diseases of Air Passages and Esophagus," Dr. C. J. Imperatori, New York City; "Infection of Middle Ear with Klebs-Loffler Bacillus," Dr. W. C. Bane, Denver, Colo.; "Acute Bright's Disease probably caused by Acute Frontal Sinusitis."

THE AMERICAN CONGRESS ON INTERNAL MEDICINE.—The first scientific session of the American Congress on Internal Medicine took place in New York City on December 28th and 29th, 1916.

NATIONAL BOARD OF MEDICAL EXAMINERS.—The National Board of Medical Examiners held its first examination from October 16 to 21 in Washington, D. C.

LEBANON HOSPITAL, NEW YORK CITY.—Surgical clinics were opened on November 1st and will be held each Wednesday at three o'clock, at the Lebanon Hospital, New York City, by Dr. Parker Syms and Dr. M. R. Bookman. These clinics will be continued until March first.

MANUFACTURE OF RADIUM.—The Federal Bureau of Mines, according to the annual report of its director, manufactures during the year more than one million dollars' worth of radium. This was accomplished through the co-operation of the National Radium Institute which furnished capital of $300,000 necessary to develop an economical method of extracting the radium from the carnotite ores.

NEW YORK STATE DEPARTMENT OF HEALTH, ALBANY.—Division of Communicable Diseases. Deaths in New York State 1915: Diphtheria, 1,754; typhoid fever, 750; measles, 834; whooping cough, 749; scarlet fever, 409. The reports during last month indicates that measles was unusually prevalent. The department, therefore, offers the following suggestions regarding the control of this disease:

1. Isolate the patient at once and maintain quarantine until seven days after the appearance of the rash.
2. Report the case to the health officer immediately, and also when the patient is recovered, in order that proper quarantine may be provided.
3. A rise in temperature over 99° F. or a coryza appearing in a non-immune child exposed between 10 and 14 days previously should lead to the isolation of the exposed child until the diagnosis of measles can be denied.
4. The discharges from the nose and throat should be wiped away with cloths. The soiled cloths should be placed immediately in a basin containing a 1 to 5.000 bichloride of mercury solution or placed in a paper bag and later burned.
5. The nurse or mother must be directed not to leave the sick room without first washing her hands with soap and water and drying them on a clean towel.
6. Guard the patient against pneumonia by having an abundance of fresh air. Temperature of the room in winter should not rise above 70° F., and should not fluctuate between wide limits. Parents should be warned not to expose the patient to draughts or allow him to be outdoors without proper covering for some time after convalescence.
7. Avoid excessive light in the room.
8. Note that the health officer leave department literature on this disease at the home of the patient. This should be consulted for further details regarding control of the disease. Read the special department circular on the Control of Measles in Schools.

Safeguarding Foods and Drugs.—In the enforcement of the Food and Drugs Act during the last year, U. S. Department of Agriculture officials analyzed 29,833 samples of foods and drugs offered for interstate shipment and for import. A physical examination was made of samples from 76,468 shipments offered for import. Of these foreign shipments, 6,353 were found to violate the law in some respects and were either excluded from the country or admitted only after the importers had relabeled them to comply with the law. Of the samples of domestic products analyzed 3,535, either because of the nature of the product or because the label on it did not tell the truth, were found to be in violation of the Federal law. In 1,364 cases the department recommended to the Department of Justice that criminal prosecution be instituted against the manufacturers or that the goods be seized. In many cases where there was no evidence of intention to defraud, and where there was merely some easily remedied flaw in the wording of a label, the shippers, after being warned in hearings, voluntarily took steps which made their products fully comply with the requirements. In all, there were held 8,715 such hearings, many of which resulted in the prosecutions indicated and the gathering of evidence for a large number of additional cases, which will be forwarded to the Department of Justice.

The Bureau of Chemistry, in its annual report, also calls attention to the fact that through the system of service and regulatory announcements now in use, manufacturers are given due notice of the requirements and thus are enabled voluntarily to make their products conform to the law. In this way the government achieves its purpose, frequently without entering into needless and very expensive litigation.

In the regulatory work, special emphasis has been given to the control of drug products and foods liable to spoilage and pollution. These frequently constitute a serious menace to health. The food inspectors have been instructed to be particularly watchful for interstate shipments of bad eggs, milk, oysters, and spoiled canned goods, and false and fraudulently labeled medicines and spurious, synthetic drugs.

Curbing Fraudulent Medicines.—Attempts to counterfeit or adulterate imported drugs have been more common since the recent high price and scarcity of many of these products encouraged their imitation. It is interesting to note that of the 1,036 cases terminated in the courts during the year, 198 were brought on account of the false and fraudulent labeling of medicines. In all of these medical cases, save five, the courts found for the government, and this, it is believed, has exercised an important deterrent effect on the vendors of nostrums shipped from one State to another.

The work of controlling the fraudulent labels of medicines and mineral waters has been greatly strengthened by the establishment of a separate office to deal with these matters. At the request of the Secretary of Agriculture an officer of the U. S. Public Health Service has been detailed to take charge of this work. Moreover, through the close co-operation established with the foods and drugs officials of many of the States, the department was able to direct the attention of the local authorities to the presence of spurious drugs in their States and, as a result, much of these fraudulent goods in the hands of local dealers and beyond the reach of the federal authorities were destroyed by State and municipal officers who, in many cases, prosecuted those responsible for the local traffic.

Milk, Eggs and Oysters.—The co-operation in the sanitary control of the milk supply of small cities described in the report for last year has been extended in Illinois, Iowa, Missouri, Kansas, Nebraska, and in New England. It is proposed to repeat this work year after year, extending it each year to new territory. In some localities bad conditions were found, due in the main to insufficient cooling and careless handling. Perhaps the best results of this work has been that it stimulated some of the local authorities to take up similar work independently so that definite permanent improvement of the milk supply of a number of cities has resulted. The co-operative work on the control of the shipment of decomposed eggs described in the report of last year has been extended to cover much of the territory in which shipments originate so that eggs are now candled before shipment far more than formerly and the spoiled eggs destroyed or fed to poultry and stock. At the same time information given to local officials has helped them to curb local traffic in eggs rejected in candling.

The Bureau of Chemistry, after making co-operative sanitary surveys of oyster beds, issued warnings against the interstate shipment of oysters from polluted and doubtful beds and, where these warnings were not regarded, undertook prosecutions. As a result, interstate shipment from such territory was stopped.

Other Adulterations.—The campaign against the sweating of immature oranges and immature grapefruit so as to give the immature fruit the color of ripe fruit has been successful, largely because of the active help of the greater part of the citrus-fruit producers. Comparatively few sweated, immature oranges were offered during the last year, and it is believed the better quality of fruit resulted in a steadier market so that the producer as well as the consumer benefited.

Other forms of adulteration not already mentioned that received especial attention are the adulteration of scallops and canned tomatoes with water, the substitution of colored starch paste for tomato sauce, the reprocessing of spoiled canned goods, the traffic in cull beans, in decomposed tomato products, in rancid olive oil, in wormy horse beans, the substitution of foreign fat for cacao butter in and the addition of cacao shells to, cacao products, the adulteration of rice bran with rice hulls, the coloring of inferior macaroni and of plain noodles, the misbranding of domestic macaroni in simulation of imported goods, and the adulteration of oats with water or weed seeds.

United States Public Health Service.—Complete refutation of the claim that the government does not concern itself with the loss from preventable disease is contained in the annual report of the surgeon general of the public health service submitted to Congress to-day. Activities ranging from the prevention and cure of blindness, scientific studies of pellagra, the protection of the health of industrial workers, the prevention of the introduction of typhus fever, investigations of child labor and health insurance, the eradication of communicable diseases and the control of the pollution of navigable streams, are recorded and demonstrate conclusively that the national government is vitally concerned in the health of its citizens.

The most striking achievement of the year relates to pellagra, an affliction which in certain States destroys more lives than tuberculosis. Pellagra is no longer a disease of mystery as the Public Health Service has clearly shown that it is caused by a restricted diet and that it may be prevented and cured by means of a properly balanced ration. The practical application of this knowledge has already resulted in a material reduction in the prevalence of this affliction in all parts of the country and it is confidently believed that in another year even more marked improvement will be observed.

In the eradication of trachoma, a contagious disease of the eyes frequently terminating in blindness, such marked success has been obtained that the methods followed, the converting of private residences into small hospitals and the holding of free open air clinics, have been adopted by the Egyptian government. During the year 1,700 persons were operated upon for the relief of partial or complete blindness, nearly 2,000 received hospital treatment, while more than 19,000 were treated at hospital dispensaries and clinics. When it is realized that large proportion of these people were doomed to years of suffering terminating in at least partial blindness and that they have been restored to lives of usefulness, in some instances even being taken from county poorhouses where they had been public charges for the greater portion of their days, the importance of this most beneficent work can be imagined. The total cost of this undertaking, including the remodelling of buildings and every expense in connection with the feeding and care of patients, was less than $39,000 for the year.

Increased interest was shown by the government in the health of rural dwellers and Congress has recognized, by making an appropriation for studies in rural sanitation, that the welfare of the country resident is not to be neglected. During the past three years 80,270 homes in

15 different counties of 13 states were visited and complete sanitary surveys made of the premises. In every instance definite recommendations were given to remedy such evils as existed, as for example the pollution of wells, the presence of disease bearing insects and the improper disposal of excreta. In addition, 22,234 homes were revisited, mostly at the request of the owners, in order that the government agents could inspect the improvements instituted. Wherever this method of bringing the lessons of sanitation directly to the rural dweller has been followed a marked reduction has been observed in the prevalence of typhoid fever, hookworm, malaria and other preventable diseases.

Attention has also been given to the health of the children of the nation, more especially to rural school children. Over 32,000 children attending the public schools were examined during the year in order to determine their mental status and the causes and percentage of mental retardation and deficiency. In addition 7,000 physical examinations were completed for the determination of physical defects.

The health of industrial workers has been safeguarded to a greater extent than at any time in the past. Studies have been made of the occupational hazards of steel workers in many of the leading industrial establishments of the country and insanitary and harmful conditions corrected. In the zinc mines of Missouri methods have been adopted which should go far toward eradicating tuberculosis from that district. Investigations of child labor and of health insurance have also been made.

What is regarded as the largest and most important single undertaking of this nature yet inaugurated, the investigation of the pollution of the Ohio river, is still in progress. Surveys of the Atlantic Coast and New England watersheds have, however, been completed and the extent and effects of their pollution is now known; this knowledge demonstrates that federal legislation to prevent the contamination of water sources is a necessity.

Better provision for the health of travelers has been obtained by safeguarding the water supplies of common carriers and through the promulgation of regulations governing the transportation of persons suffering from communicable diseases.

Energetic efforts have been made to prevent the introduction of all communicable diseases and to control those already with us. Typhus fever has been combated at all points on the Mexican border and disinfection plants established where the clothing and persons of all incoming aliens have been disinfected. At one station alone, El Paso, Texas, 26,000 persons were inspected and treated in such a manner as to insure their freedom from this highly fatal infection.

Plague eradicative measures at New Orleans have been continued. Over 371,000 rodents, the carriers of plague infection, were either trapped or killed and more than 100,000 were carefully examined. No human case of the disease has occurred during the year. Measures for the control of typhoid fever, Rocky Mountain spotted fever, malaria and other infections have been continued as heretofore and the results obtained have been most gratifying.

In only a single field, the medical inspection of immigrants, has the work of the Public Health Service shown any diminution during the year but this has been compensated for by the more thorough examination accorded. 481,270 aliens were examined for the purpose of determining physical and mental defects. Of these, 16,327 were certified for deportation, proportionately a greater number than has ever been recorded. The percentage of mental defectives certified is also steadily increasing.

At the marine hospitals and relief stations of the service approximately 69,000 beneficiaries received medical or surgical treatment, a number greater by 10,000 than for any previous year.

In Southern California several ages ago the oil escaping from a small spring formed in a depression of the earth a little pool. The lighter portions of the oil evaporated leaving the sticky asphalt. From time to time the rains covered the surface of the pool with water, animals and birds came down to drink, sank into the asphalt and were imprisoned in this gigantic animal trap. The hungry wolves saw there before their eyes fresh animal food of every sort, from the enormous mastodon to the smallest bird. They too were drawn into the trap as were also the large saber-toothed tigers which then roamed that vicinity. To-day scientists are engaged in excavating the bones deposited there by indiscreet appetite.

The aim of civilization is to create inhibition, the quality which holds back and directs to useful purposes the natural appetites, preventing them from leading man into the pitfalls which beset over-indulgence. Hunger is the great stimulus of action but when it is satisfied to satiety, sodden inactivity follows. If the natural appetite is allowed to dominate, it leads to over-indulgence and the unwary victim suddenly finds himself in a trap from which he cannot escape.

One of the great elements in maintaiinng health is the regulation of the bodily intake to meet the appetite. The man who works with his hands requires more food than the brain worker. The man who labors in the open air needs more nourishment than he who sits cooped in an office all day long. Give the sedentary worker the appetite of the day laborer and if that appetite be uncontrolled the body will become clogged with the poisonous products of its own manufacture and physical deterioration will surely follow. It is just as bad to eat too much as it is to eat too little. To indulge the appetite to too great an extent is equally as pernicious as its constant depression. The best is to be found in an average course, neither over- nor under-indulgence, neither the following of the inelastic dietary nor the promiscuous and ill-considered use of foods. Many a so-called case of dyspepsia is nothing in the world but the rebellion of an over-worked stomach, the remonstrance of a body which has been stuffed to repletion. A great deal has been accomplished in the reduction of infant mortality because we are able to control what infants may eat. Adults must for themselves exercise this as self control. If this is done there will be a decline in our adult mortality rates and an increase in health and efficiency.

Personals.—Dr. Fisher M. Joslin (A. M. C. '93), of Voorheesville, N. Y., has been appointed health officer of the town of New Scotland.

—Dr. John Giffen (A. M. C. '97), Albany, has moved to 15 S. Hawk street.

—Dr. Orvis A. Brenenstuhl (A. M. C. '13), is engaged in active practice at 13 S. Hawk street, Albany, N. Y.

Died.—Dr. Ivory Lowe (A. M. C. '62), of Canaan, Me., died at his home on November 26th, after a short illness, aged eighty years.

—Dr. Charles G. Cole (A. M. C. '97), of Binghamton, a Fellow of the American Medical Association died at his home, October 27th, from pneumonia, aged fifty-one years.

—Dr. M. Joseph Mandelbaum (A. M. C. '02), was the guest of honor at a banquet given at the Waldorf-Astoria in New York City by the Diagnostic Society on December 5, 1916. Dr. Mandelbaum, as President of the Society, took the opportunity to make the announcement of a plan for the establishment of a diagnosis hospital, which is to be the first of its kind in the country. The plan of the hospital is to provide facilities for complete diagnosis in order that the practicing physician may obtain information for the proper treatment of his patient. Nearly one hundred thousand dollars has already been subscribed toward a building fund, and a like amount is expected to be raised in a short time. It is understood that Dr. Mandelbaum will be the active head of the hospital. Dr. Mandelbaum's address is 332 West 145th street.

—Dr. Norman H. Liberty (A. M. C. '12), of Mineville, N. Y., a member of the Medical Society of the State of New York and a member of Essex County Medical Society, was instantly killed in an automobile accident at Ticonderoga, N. Y., November 13th, aged twenty-seven years.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

Refraction of the Human Eye and Methods of Estimating the Refraction Including a Section on the Fitting of Spectacles and Eye-glasses, etc. By James Thorington, A. M., M. D., Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine; Member of the American Ophthalmological Society; Fellow of the College of Physicians of Philadelphia. Three hundred and forty-four illustrations, twenty-seven of which are colored. Published by P. Blakiston's Son & Co., Philadelphia.

There is nothing in the English literature that is of so much value to students of ophthalmology whether in college or in general practice. Definitions are clear and distinct, illustrations well dispersed, typical cases of the various refractive errors are worked out in detail so that even the beginner, after mastering the facts stated in the book, feels that he knows at least how to start the examination for the determination of refractive errors. Thorington is unhesitatingly recommended to all interested in ophthalmology. A. J. B.

The Principles of Hygiene. A practical manual for students, physicians and health officers. By D. H. Bergey, A. M., M. D. First assistant, Laboratory of Hygiene and assistant professor of bacteriology, University of Pennsylvania. Illustrated. Fifth edition, 1914. Thoroughly revised. Philadelphia and London. W. B. Saunders Co.

In this fifth edition it is necessary to 1evise the statements embodied in our knowledge of a few years ago. As the author states, it is not an easy task to keep in touch with all the various lines of investigation and administration which engage the attention of men in the laboratory as well as those in the field. The excellent arrangement and type facilitate ready reference. So great is the detailed knowledge in the various subdivisions that it is difficult to consider all these subjects adequately in a single volume. However, the essential principles of hygiene are well arranged and described. T. O.

A Treatise on the Principles and Practice of Medicine. By Arthur R. Edwards, A. M., M. D. Professor of the principles and practice of medicine and of clinical medicine and dean of the faculty in the Northwestern University Medical School, Chicago. Attending physician to Michael Reese Hospital, etc. Third edition thoroughly revised and rewritten. Illustrated with 80 engravings and 23 plates. Lea & Febriger. Philadelphia and New York. 1916.

In this edition the author states that the whole work has been virtually rewritten to insure brevity and clearness. Particular attention has been given to therapeutic details and there are practically new chapters on icterio-anemia, the ductless glands, X-Ray findings. erythremia, sepsis, high calory feeding in typhoid with a table of food values, sporotrichosis, blastocmycosis, trichinosis, gas poisoning, the arrhythmias and cardiac neuroses, splenomegaly and various other affections. Careful use has been made of types of various prominence to facilitate the finding of a topic and the appreciation of its importance. The illustrations are comparatively few in number and the large majority are copied from other authors. The reviewer is pleased to note that the author emphasizes the value of morphia in the treatment of pneumonia in certain instances. In nephritis, little is said of the newer functional tests of renal function. The more recent work on various types of pneumonia is not discussed.

The more recent studies of clinical cardiac physiology are briefly described. It is very difficult, indeed well nigh impossible, adequately to present the principles and practice of medicine in a single volume but notwithstanding this disadvantage such a work is of value chiefly as a text book for students. T. O.

A Text Book of the Practice of Medicine. By JAMES M. ANDERS, M. D., Ph. D., LL. D. Professor of medicine and clinical medicine at the Medico-Chirurgical College, Physician to the Medico-Chirurgical Hospital, consulting physician to the Jewish Hospital and to the Widener Home for Crippled Children, formerly physician to the Philadelphia and to the Protestant Episcopal Hospitals, Philadelphia. Officer de l'Instruction Publique. Illustrated. Twelfth edition, thoroughly revised. Philadelphia and London. W. B. Saunders Co. 1915.

In this edition the arrangement of the material and manner of treatment is the same as in previous issues. In certain instances the writings of others have been quoted because they are at variance with those of the author. There are a few references covering problems in which scientific research is at present engaged. This is to induce the reader into fuller discussion of the subject. The subject is partly rewritten and the more important additions include the following: diabetes mellitus, hydrothorax, gastro and enteroptosis, acute anterior poliomyelitis, rôle of the cockroach in the spread of cholera, Schick's test for antitoxin in the blood in diphtheria, tuberculosis of the bronchial lymph glands, phenolsulphonephthalein test in nephritis, splenectomy in pernicious anemia, etc. There are comparatively few text figures or plates. In spite of the difficulty of adequately discussing the subjects included in the practice of medicine in a single volume this book should continue to be of distinct value as a text book for medical students. T. O.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, etc., by Leading Members of the Medical Profession Throughout the World. Edited by HENRY W. CATTELL, A. M., M. D., Philadelphia. Vol. II. Twenty-fifth Series 1915. J. B. Lippincott Company, Philadelphia. The price of this book is $2.

Medical literature naturally divides itself into two classes general and special. The former class being of interest to all in the profession; the latter, ever increasing in volume, covers limited fields of thought and action, clothing its subject matter in new and unfamiliar terms.

So in the volume at hand there are articles for the general practitioner the laboratory expert, the neurologist who delves in the occult regions of psychoanalysis and the progressive surgeon who aspires to the mastery of bone surgery.

"Some New Phases of Emetine Therapy" by Alfred S. Burdick, M. D., Chicago, is a helpful article pointing out the uses of this drug in hemorrhage, respiratory diseases, pyorrhea and certain systemic diseases notably arthritic affections. The usual dosage appears to be one-half to two-thirds grain, given hypodermically.

"Animal Extracts in the Treatment of Medical Diseases," by Graham Chambers, B. A., M. B., Toronto. The subject of animal extracts always changes one's interest. There is so much to be hoped for and as yet undiscovered in this realm of therapeutics. The writer rather explains on a physiological basis therapeutic truths already known, than advances any new facts in treatment of disease.

"The Orthopaedic Clinic of Fred H. Albee at the New York Post-Graduate Medical School" by P. G. Skillern, Jr., M. D., is an interesting and instructive contribution on the work of this great surgeon of the osseous system. He first discusses the subjects in which Dr. Albee is most interested; namely, osteoplasty of the spine for Pott's disease, and the inlay bone-graft in the treatment of fractures; next, the description of a few operations; and, finally a systematic discussion of the entire field of his work from head to foot. The article is well illustrated and presents in readable form the great advances made in recent years along the lines of bone surgery. H. D. C.

Diseases of the Skin. By Richard L. Sutton, M. D., Professor of diseases of the skin, University of Kansas School of Medicine; former chairman of the dermatological section of the American Medical Association; member American Dermatological Association; assistant surgeon, United States Navy, retired; Dermatologist to the Christian Church Hospital. With six hundred and ninety-three illustrations, and eight colored plates. St. Louis, C. V. Mosby Co., 1916.

This new volume on skin disease presents the subject in a clear, concise, attractive manner, with noticeable omission of the obsolete and questionable. One cannot fail to be immensely prejudiced in its favor because of the great profusion and general excellence of the six hundred and ninety-three illustrations and the eight superbly colored plates.

Many of the reproductions are of exceptional interest and value, having been drawn from the collections of various workers in different countries by the author. Those dealing with the common dermatoses predominate, but pictures of rarer skin lesions such as uta or espundia, cutaneous thrush, foot-and-mouth disease and trichinosis have never been included in a text-book before.

The book has grown out of the author's experience in dispensary, teaching and private work. It should prove its worth as a text-book for students and as an aid to the physician. L. W. G.

PATHOLOGY AND BACTERIOLOGY.

Edited by Ellis Kellert, M. D.

The Sanitation of Railway Cars.

T. R. Cowder. *Public Health Reports, Vol.* 31, *No.* 32, *p.* 2135.

Cowder gives an excellent summary of the present status of railway car sanitation. He also points out numerous fallacies and offers several valuable suggestions.

The car must be regarded as a temporary dwelling, a house on wheels and the same sanitary practices are necessary as for any other house. The prevention of the promiscuous distribution of the secretions and excretions of infected human beings, in railway cars where direct transmission from person to person through the agency of mouth spray and intimate personal contact occur, are most important. The exclusion of people infected with communicable diseases would appear to be of first consideration and Cowder suggests the enforcement of legislation placing the responsibility on passengers themselves and making it illegal for those afflicted with communicable diseases to ask or to accept transportation from common carriers. Special attention is called to tuberculous patients who travel about seeking health. Such individuals should be particularly careful in disposing of mouth secretions and in protecting the air from mouth spray.

In the dining car care must be taken in the handling and storage of food, particularly milk, cream and raw vegetables. Frequent examination of cooks and waiters should be made and those infected should be dismissed until cured. The inoculation of dining car crews against typhoid is also advocated.

Bacteriological examinations of the railway coach have shown few virulent organisms in the dust from the floor or furnishings. Pathogenic organisms were found but to no greater extent than in other habitations. Car infection may be reduced to a minimum by mechanical cleaning or fumigation. The first method is more practical and highly satisfactory. Soap and water and the vacuum process are most efficient but fumigation should be practiced after serious infectious diseases are known to have been carried. Dry sweeping, the use of the common cup and towel should be prohibited and employees given instructions in the care of cuspidors, basins, hoppers and the use of disinfectants.

As a rule, plenty of fresh air enters the cars and if the temperature be regulated between 65° and 70° F. there will be no complaint of poor ventilation especially if the air be kept circulating by means of electric fans. Although variable amounts of dust, smoke and engine gases enter cars they produce only temporary discomfort and are never dangerous. Ordinary dust which is more prevalent may possibly be infectious. Dust from the roadbed may be prevented by sprinkling the tracks with oil.

Sewage from car toilets is usually dropped on the surface of the tracks or received in a portable container. The latter is the more sanitary arrangement but there is no evidence to show that the former practice is dangerous except when near water supplies. Sewage on tracks rapidly disintegrates and pathogenic organisms are quickly destroyed. E. K.

The Effects of Exposure to Cold upon Experimental Infection of the Respiratory Tract.

JAMES ALEXANDER MILLER, M. D., and WILLIS C. NOBLE, Ph. D. *Journal of Experimental Medicine,* Vol. XXIV, No. 3, 223.

The authors used bacillus bovisepticus or snuffles bacillus which is pathogenic for rabbits producing a true septicaemia with localization in the upper respiratory passages. The condition is characterized by a discharge of yellowish mucus from the nostrils and may terminate in recovery or a fatal pneumonia.

As a result of their experiments, Miller and Noble find that infection is favored by chilling the animals after they have been accustomed to heat; that any marked change of temperature predisposes rabbits to this infection and that a change from low to high temperature has an even more marked effect than from high to low.

These experiments are in accord with those of previous investigations, with the exception of Chodounsky who used attenuated cultures of Friedlander's bacillus and found no difference in susceptibility between chilled and control animals.

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Edited by Frances K. Ray.

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Original Communications

THE PROBLEM OF THE SOCIAL ADJUSTMENT OF THE UNUSUAL CHILD.

Delivered at a special meeting of the Albany Social Science Society at the Albany Medical College, Albany, N. Y., January 17, 1917.

BY FREDERIC H. KNIGHT, PH.D.,
Superintendent of The New England Home for Little Wanderers.

The problem of the social adjustment of the unusual child comes to us in the form not of a theory but of an actual living human being. It may add to the interest of this discussion if we take a concrete case which we have actually dealt with as an introduction to the more theoretical part of what we may have to say.

On July 7, 1916, Albert Hadway was loafing as was his custom on the street corner in the city in which he lived. He loafed there nearly all day and nearly every day. Occasionally he would shuffle his way home and be fed, but would soon reappear in his accustomed place. When it became dark, if there was no mischief on hand, he would disappear for the night. Let us look at him. He is fifteen years of age, born in a foreign country, but had lived in Bridgeport for the last twelve years. He is a paralytic, never stands erect, walks with a peculiarly awkward and almost repulsive method of those who have been afflicted with that form of paralysis, choreic athetosis. He is shabbily clothed, dirty, utterly lacking in ambition, guilty of petty larceny several times, the butt of all the practical jokes of the wiser boys of the gang and fast becoming a public nuisance. His home is a very poor one. His father had died three years before. The family had been kept together with the assistance of older children, but the income was not adequate and home conditions were bad.

Some hundreds of people that day passed the corner at which this boy was crouching as the hours came and went. It requires no great stretch of imagination to add this statement. Just as several ineffectual people passed the poor fellow who had fallen amongst thieves and had been robbed on his way from Jerusalem to Jericho, so passed by Albert that day a minister, a physician, the judge of the local municipal court, a school teacher, a man very much interested in the psychological study of unusual children, the patrolman on the beat, and a benevolent individual who bore no official relation to the problem. Every one of these good people had a kind thought in his heart and would have been glad to have solved the problem which the appearance of this unfortunate boy presented, but because of the apparent hopelessness of any effort, contented themselves with the kind thought and the sincere wish.

The clergyman might have said, "This poor fellow is evidently on his way to destruction, but he is so confirmed in his bad habits and so repulsive withal, and apparently of such low grade mentally, that mere persuasion would probably fail in his case. He needs a stronger hand than we have."

The school teacher might have said, "I have had a long and dismal experience with this boy already and am at the end of my resources."

The judge might have thought, "Before very long this boy will be before me for trial." "I will try to keep an open mind." He thinks for all that there is just one place for a boy of that type.

The psychologist might have said, "Supposing I had the opportunity of finding out all about this boy, what could I then do by way of treatment?"

The patrolman on the beat says to himself, "I will keep an eye on this boy."

The benevolent individual, if he were of the unwise type, would hand the boy a quarter. If he were a little wiser he would be in despair, but would not hand him the quarter.

Just six months after that date I was speaking at a meeting of a county medical society, a group of about seventy-five or eighty local physicians, on the subject of physical diagnosis and what could be done if just the problem in hand could be definitely determined. Less than twenty-four hours after that speech, Albert Hadway was put up to our organization. We accepted the boy and in fifteen weeks returned him to his home.

If you should see him now you would see a boy physically and morally upright, well dressed, with regular employment suited to him, giving evidence of a rather high type of self-respect, one who is rather fastidious about his personal appearance, a self-respecting, self-supporting, in every way a desirable member of the community. The clergyman passes him on the street today and bows to him, for he is now in regular attendance upon church services, and is active in the social life of the church. The judge gives him a friendly nod and has no anxious thought regarding him. The school teacher is proud of the fact that the boy was once under her instruction. The patrolman has lost sight of him altogether, the benevolent individual feels that he never put $53.05 to a better use. Home conditions have greatly improved and all is well so far. This, we think, is a good job and what we like to call a hundred per cent job.

In discussing the subject announced, namely, "The Problem of the Social Adjustment of the Unusual Child," we are to speak more particularly of an attempt that is now being made in this direction by an institution in the city of Boston bearing an ancient name which hardly expresses the work the organization is now attempting to do. This institution is The New England Home for Little Wanderers.

In presenting this paper we hope that some contribution will thus be made to the solution of The Problem of the Social Adjustment of the Unusual Child by what may be said by the speaker, and more especially by what may be thought by those who honor me by listening to what I shall say. By social adjustment I mean the fitting of the unusual child to a suitable, permanent environment, or if the process is to be considered I mean the arriving at an exhaustive diagnosis based upon a scientific examination and trained observation tempered by the opinion of an experienced person, followed by such treatment as fits the unusual child for a suitable, permanent environment.

For our present purposes we may divide children coming to the attention of the psychologist or the physician and the social worker into three groups. These groups are obviously not mutually exclusive nor are they exhaustive.

First, those who can be classed as normal, for although this term has wide limits, its use is certainly justified. The normals are those whose physical or mental condition is not such as to tend to social adjustment.

Next, the feeble-minded, those whose mental level is so low as to make certain social maladjustment.

Lastly, by excluding the other two groups we have a certain number who may be called, for want of a better term, unusual. This last is, of course, a composite term, each individual being to a certain extent a type by himself.

Now as we approach the study of this group of unusual children there are certain fundamental principles which may well be kept in mind, remembering that our problem is that of fitting unusual children to a suitable, permanent environment.

First, all queer adults, all grown persons whose efficiency is subnormal because of physical handicaps, all whose conduct is anti-social: in other words, all people who are only partially adjusted to society, those who are apparently not adjusted at all, those of every sort who go to make up the misfits of society, were at one time children, most of whom in early childhood would have exhibited to a skillful observer the beginnings of those traits or defects, physical and mental, whose full fruitage is seen in the maladjustment of adult life.

Second, many of the most significant social virtues are perfectly natural and normal. By the social virtues I mean alertness, a just appreciation of environment, a quick and proper response to changes therein, industry, good nature, fairmindedness, and all other characteristics which make it possible for men and women to live together in peace and comity and to produce in sufficient quantity the natural fruits of civilization.

Third, when for any reason an individual floats poorly in society and fails to contribute his fair share towards society's weal, but does contribute rather more than his fair share to the destructive forces there is always a reason for that condition.

Fourth, if we knew all that might be known about any given individual whose social conduct is unusual and who is the victim of maladjustment, we should be able to trace the whole course of such maladjustment, its beginning, its development and its results and to analyze pretty thoroughly the present picture.

Fifth, in a very gratifying percentage of cases, maladjustment, if not of too long standing or too deeply rooted in personality, may be either wholly remedied or made at least tolerable. In other words, it is not a hopeless task that one sets before him when he attempts to deal with the problem of the unusual individual, especially with the unusual child.

The causes of maladjustment may be physical or mental, or as is quite commonly the case, both physical and mental.

Though progress in many fields of child study has been great, the most notable change in procedure during recent years has been the increased stress put upon accurate diagnosis, and for our purposes tonight diagnosis is the first great word to be emphasized.

Several years ago it dawned upon the speaker that the percentage of failure in dealing with children was alarmingly large. This was true from every standpoint, and more especially from the standpoint of social adjustment. The special group of children which at that time interested me was composed of those whose social conduct was unfavorable for reasons other than that of a low mentality, and I conceived the notion that this group could best be dealt with if it were separated from the group of children whose conduct was unfavorable for many reasons including that of a low mentality. Latterly, I have felt that just that division is rather useless, for in a very large percentage of cases where the dominant cause of maladjustment was apparently not mental deviation, yet mental defect became apparent sooner or later and had to be reckoned with, so that now we deal with unusual children as a group whether their deviation from the normal is occasioned by physical conditions or mental or both. We find in actual experience that this is a much more workable plan. We then found that as a matter of actual practice most methods thus far employed in dealing with unusual children were analytical. That is, the shreds were unraveled and examined at great length and very properly classified and tagged. Synthesis was, however, almost entirely lacking. Analysis alone without subsequent synthesis does not give a real diagnosis. In other words, having learned of intelligence, heredity, environment and all the rest, who is to assemble all this knowledge and tell us about the whole child? And then inasmuch as our aim is to discharge children one hundred per cent well in every department of the child's being, it is equite essential that someone should be responsible for unity of treatment. The task of synthesising cannot safely be left with any one of a group of enthusiastic specialists working in fields often remote from each other. The fact is that very individual concerned in the processes of analysis usually sees his own work out of proportionate relation to the rest of the task. The psychologist may be very skillful in his special field without knowing very much or caring very much about life beyond the laboratory. The social worker is apt to be led by her sympathies to some doubt of what the psychologist or the pediatrician considers to be cold facts. Again, it seems to me true that children and other patients, but children especially, have been handled at arm's length. The more personal side of the examination and diagnosis was often left and is to this day often left to non-professional and untrained persons. From our standpoint the two elements in a correct diagnosis are thoroughly scientific observation, and the bringing together synthetically of all that is found out by blending scientific examination and thoroughgoing observation so that all the results of the process shall be in the mind of some one responsible person. No one person is sufficient for a complete diagnosis and no one person is sufficient for adequate observation.

Now out of these considerations and many more grew the plan which has already been developed to a considerable extent and which the speaker is trying to carry to a still further development. Under one roof and under one management in a building designed with a special reference to applying the laboratory method to the study of unusual children, we have our staff of children's specialists on the medical side, our psychologist and psychiatrists, our trained social workers and an arrangement for a twenty-four hour a day supervision in the various departments of child life. A unified diagnosis is made of every child. To this diagnosis contributions are made by the pediatricians, the psychologists, the graduate nurses, the trained social workers, and attendants trained to observe and to report fully and accurately. We have sufficient hospital space with modern equipment for the treatment and care of certain definite physical troubles such as adenoids and tonsils, middle ear, certain functional and other heart troubles, scoliosis, enuresis and especially underweight.

There are many advantages in having as far as possible your whole equipment under one roof and one management. By this means the examiners become expert in the particular problems of the particular organization with which they are connected, and by this means also a consultation of specialists can be personal and not by formal report from one to the other. Though it is not possible that any one person can know all about any one given child, it is possible, and should be accomplished without any great difficulty, for one person to know all that is known of that child, and this person should be experienced in the work and able to receive the reports of various associates and with a judicious mind assemble their findings and make the final diagnosis on which social treatment is to be based. The finest work cannot be done when the child is handled at arm's length. All knowledge should be as nearly first hand as possible, and all that is known should be expressed in language which all interested can understand without frequent recourse to the dictionary. It will not do to speak of a recidivist afflicted with anorexia showing abnormal kinaesthetic sensations and epideixis of attention with a low hyparctic rating, especially if one should add, " You know that no hyparctic rating per se indicates the future possibilities or probabilities of development." It would be much better to speak of an old rounder who had lost his appeitite for food and who is numb with cold and who finds it impossible to give his undivided attention to anything, etc. It adds greatly to the interest of all concerned in making a unified diagnosis of a case not only to understand his own contribution to the diagnosis but to understand the contribution made by everyone else concerned; and after all, the English language is a fairly good medium for the expression of human thought.

It may be well at this point to state again the subject of this paper, which is, " The Social Adjustment of the Unusual Child." Our task has just begun when we have reached our diagnosis. Let us assume that our diagnosis is correct and in its correctness justifies the means used to reach it.

We now know at least in some measure what we have on hand and so far as we have knowledge regarding any given child our knowledge is, let me repeat, accurate. We never completely understand any child. Proper mental tests have been given, a medical examination has been thorough, the scheme of observation has been carried out and we try to write down in a sentence or two our findings; the diagnosis is made.

Now the child is to be adjusted to society, to life in his home, in his neighborhood, in his community and so on in ever-widening circles until fullness of satisfactory life in the world is reached, or at all events until all available means have been exhausted to reach that end. We are now making use of what may be called the social viewpoint. From this viewpoint we may well divide this group of unusual children into three smaller groups.

First, children to whom attention has been called so early in life that by their contact with society the children themselves have not been harmed much nor have they done much harm. These are our most hopeful cases.

The second group is composed usually of older children who have been in contact with society long enough so that the word "misfit" may be applied to them. As yet, however, their condition is not hopeless and their friends not quite discouraged.

The third class is composed of those who are somewhat older still who have deviated from the normal and the desirable in conduct so far that interested parties are thinking only of getting them under cover somewhere where they will do no further harm to themselves or to friends, but the thought of social adjustment has been well nigh abandoned.

It was to this third class that Albert Hadway, to whom I called your attention at the outset, belonged. So far as we know, there was no one in the city in which this boy lived who had any hope for his future whatsoever. He was unusual, a ne'er-do-well and a misfit, even though he had not passed his sixteenth year. The successful treatment of a boy in the third class, the almost hopeless class, may have more of inspiration and suggestion than the successful treatment of a child, for instance, in the first class; and yet the second and third classes are being constantly recruited because of lack of successful attention to those who in early life are in the first class.

Albert's physical examination showed, as I have indicated, that he was afflicted with choreic athetosis, Romberg's sign was in evidence, the boy's hand grasp was weak, posture faulty in almost every respect; he walked with his toes turned in with a falling gait (festinating) (spastic). You can see the picture.

His case history showed. as I have indicated, that he had been going from bad to worse. He was out of school, out of work, out of everything but mischief, and the mischief was fast becoming very serious. The reform school, or perchance the school for feeble-minded, was just ahead of him.

At the time of his first mental examination his chronological age was 15½ years. His mental age, according to the Binet test, was 10.2 years. His mental age, according to the Yerkes point scale, 10.5, non-English speaking tests having been used. His coefficient of intelligence was 68 per cent.

Let me repeat that he was with us but fifteen weeks and that at the end of fifteen weeks he could stand erect, could walk, run and jump; he had become very much of a gentleman, almost fastidious in his ways. His mental examination at the end of fifteen weeks showed his chronological age as about sixteen years and his coefficient of intellectual ability 94 per cent. Now this does not mean that his actual mentality had changed to the extent that this difference in intellectual ability might indicate. It simply means that the physical apparatus through which his mentality operated had been greatly improved, and if I may use the term, that he was in better possession of his faculties. But the practical result was the same as it would have been if his actual mentality had increased from 68 per cent to 94 per cent. The environment into which he was adjusted comprised a home whose conditions had been greatly improved by systematic effort on the part of tactful, friendly visitors, an occupation which was suited to him, with sufficient wages to meet all his necessary expenses, including his board, the Young Men's Christian Association with its gymnasium and other helpful influences, a church home of which he is becoming very fond and a sufficient number of congenial friends and companions, and all these influences supplemented by the systematic oversight of a trained social worker.

Up to the present time it would seem that one hundred per cent of that which was needed for the proper development and for the utmost usefulness of this boy had been done. His regime while he was with us consisted of a thorough-going physical examination with necessary blood tests and all, a thorough-going mental examination with a period of observation to assist in the findings, the care of his teeth, the freeing of his ears from cerumen, the testing of his eyes, association with friendly people who had sense as well as friendliness, regular habits of every necessary kind, corrective gymnastics every day in the week excepting Sunday, supplemented with supervised play and with carefully arranged spontaneous play, five meals a day with rest periods between the first and second meals and the fourth and fifth meals. An interesting method of checking up results in securing coordination was in the use of the piano which he loved to play upon. Almost perfect coordination was secured so that the physical defects growing out of his paralysis might easily be passed by without notice by a stranger.

In his case we see very clearly the advantage of having all the equipment necessary under one roof and one management, a good pediatrician who is interested in his task, a skillful and experienced teacher of corrective gymnastics, food well cooked and well served and abundant in quantity, open-air sleeping.

The regime must, of course, be adapted to the special needs of the individual case.

Unusual children are for the most part in the public schools. They are also seen upon public and other playgrounds, in groups upon the street, and they frequently come to the notice of charitable organizations. What a happy day it would be for childhood and for the State if the time could come when every unusual school child has done for it a hundred per cent of all that needs to be done both as to the child's own condition and the conditions under which he must live. While an institution like our own has a very great advantage in doing extensive work, and while it affords almost ideal conditions for the carrying out of regime that is ordered, an institution is not absolutely necessary for the doing of work which is very well worth while.

More than half the battle is won when a correct, exhaustive diagnosis of the whole condition of the child is reached. Then someone must be found who can organize the resources of the community for the remedying of mental and physical defects so far as they may be remedied and for furnishing a suitable environment for each child with proper supervision. In this way an attempt is made at least to do one hundred per cent of the task, and this, at all events, should be the ideal toward which we should strive.

THE BACKWARD CHILD—WHAT CAN BE DONE FOR HIM?

By J. T. KRAUSE, M. D.,

Medical Examiner of Mental Defectives, Board of Education, New York City.

One of the greatest problems before us to-day is that of the child with a limited mentality; psychologists teach us that the period of evolution of intellect reaches its maximum near the age of puberty; during the early years, the mental development is more rapid, becoming lessened in late childhood and finally ceasing at the above stated period. Under normal conditions, this evolution goes on year by year, uninterrupted, with the result that at any given period, the child is referred to as "a normal child for his age." Let us reflect for a moment,—by what standards are we to judge the mental capacity of a child?

As the result of careful studies of thousands of children at different ages, psychologists (Binet, Simon, Kuhlman, Goddard, and others) found that the average normal child had a certain intellectual development at a certain age; this was found to be fairly accurate in children up to the age of nine years; beyond this the variations in the mental development become so great that definite standards could not be established as accurately as for younger children. It remained for Binet and Simon to formulate a series of tests by which the "mental age" or intellectual capacity of each child could be ascertained with a fair degree of accuracy.

It is only natural to suppose that any interference with the mental evolution of a child will result in a lessening of its mental capacity. Let us then consider the factors which, directly or indirectly, influence normal evolution. It is believed that in about sixty to seventy per cent of all cases of feeble-mindedness, some hereditary strain can be traced back to the parents, grandparents, or other antecedents of the child; in other words, there has been an inherited deficiency in the potency of the germ cell; as the result of such deficiency the mental evolution may never materialize, as is illustrated in idiocy, or it may get under way and cease at an early period, as in imbecility; in other cases, the arrested evolution is not as marked as in the types just mentioned, although the mental capacity of the child is much less than that of a normal child at the corresponding age. To this last group belong the so-called "morons," or the highest types of the feeble-minded.

In about thirty per cent of all cases of feeble-mindedness, the histories show that certain toxic or traumatic conditions were directly or indirectly responsible for the permanent damage to the brain. These influences may have acted upon the mother previous to the birth of the child: in other cases, difficulties at birth resulted in injury to the head with a corresponding arrest in mental evolution. Accidents to the child during infancy and certain diseases (spinal meningitis, scarlet fever, pneumonia, etc.,) have left their indelible impressions on the young developing brains; once the damage is done all of these cases of feeble-mindedness seem hopeless in the sense that their brains will never functionate normally. It is interesting to note that about two per cent of the school population are feeble-minded.

Having considered the various etiological factors which result in permanent damage to the brain with complete or partial arrest of mental development, we now come to a very important group of children known as the dull and backward type. Careful studies have revealed the fact that although there have been no gross pathological changes in the brains, these children, for various reasons, are unable to "keep up" with other children at corresponding ages. As the result of an extensive study of large groups of children in the lower grades of a school system, Goddard found that almost fifteen per cent of the children examined were backward. While there is considerable difference of opinion in regard to the percentage found by Dr. Goddard, I believe his conclusion is a conservative one.

In studying the backward child, carefully we find that certain conditions are present over which he usually has no control. In the large majority of cases, the backwardness can be attributed to these existing conditions. We can all recall how the dullard of the class was made the target for the ridicule of others, but as our knowledge increases, we find in him an object for study and not ridicule.

What are the factors which result in an impairment of normal school progress? Named in the order of importance, we find that the average backward child owes his mental sluggishness to one or more of the following conditions: (a) poor physical condition, (b) poor environment, (c) lack of educational training. It has been my experience that there are a certain number of children in the public schools who are not handicapped by any of the above-named influences, yet they are unable to keep up in the regular grades; they possess a fair amount of "street intelligence," but their records for school work show a lack of proficiency in many subjects. On interviewing the parents of some of these youngsters, a very important fact was revealed: they showed marked evidence of mental inferiority which had probably been transmitted to their children. Of course there are exceptional cases where no etiological factors can be found, but in about three per cent of all backward children, a decided constitutional inferiority exists in the parents.

We have been taught that any deviation from normal histology of any organ results in a corresponding disturbance in its physiology; we therefore can readily appreciate that any physical condition which will lower the general vitality of a child, will also result in a disturbance in its mental activity. When the blood flowing through the brain is deficient qualitatively or quantitatively, the general nutrition of the brain cells becomes impaired. Not receiving the proper nourishment, how can we expect them to functionate normally? The physical conditions which result in mental sluggishness may be divided into (a) general, and (b) local. The general conditions include diseases which affect the entire body, such as malnutrition, anemia, rickets, etc. Frequently it is found that children are born with a hereditary predisposition to certain constitutional diseases, as tuberculosis, rheumatism, syphilis, etc. In these cases, although mental evolution does not become arrested, certain changes take place in the brain cells, which is evidenced by a general sluggishness in mentality. Where the backwardness has resulted from malnutrition, anemia, or rickets, persistent treatment has resulted in a marked amelioration of the mental condition as well as of the general health.

After examining several thousands of children proposed for the "ungraded classes" in the public schools of New York City, I became convinced that a large percentage of the children examined owed their backwardness to certain local physical defects which were remediable; included in this category are, defective vision, defective hearing, enlarged tonsils, adenoids (defective nasal breathing), diseased teeth, chorea, gastro-intestinal disturbances (auto-intoxication), cardiac disease, etc. As an illustration let us see how defective vision will result in backwardness. Henry Johnson, ten years old, is in a 3A grade; his pedagogical records show that he entered school at six years. His school attendance has been regular; he was in 1A for one term, in 1B for two terms, in 2A for two terms, in 2B for two terms, and in 3A at present; his number work is fair but his reading and spelling are very poor; when the Binet and Simon tests are applied, he is said to have a "mental age" of eight and one-half years; this makes it appear that Henry is about one and one-half years backward. The physical examination reveals the following: the development and general nutrition are fair; the special senses are normal with the exception that the child shows a marked myopia; aside from this, the physical examination is essentially negative. On entering the classroom, the examiner finds Henry seated in the row next to the last; the teacher has written an example on the blackboard and is explaining it to the pupils. Henry's auditory memory is good, but not good enough to compensate for the deficiency in visual memory; what is the result? the boy failed to grasp a very important point brought out by his teacher; frequent occurrences of this kind not only tend to make the child backward, but results in an indifference on the part of the child; correction of such physical defect is followed by awakened interest and general improvement in mentality. I could cite other instances where the backwardness could be traced directly to certain physical defects which were remediable.

Environment plays a very important rôle during the period of mental evolution. The child brought up amidst pleasant and hygienic home surroundings has a decided advantage over one reared in a crowded and filthy atmosphere. Psychologists have frequently stated that environment has a molding effect on a developing brain. An intense desire to thoroughly understand the backward child, prompted me to visit some of the homes of backward children; in a few cases the home conditions were favorable inasmuch as the child received plenty of food and the sanitary conditions were fair. Where the number of children in the family was small, the child received proper hygiene but where there were five or six youngsters in the family, the child was frequently neglected. In the large majority of families visited the home conditions were poor; the extreme poverty was not only reflected in the children but also in the parents; six, seven, and even eight members of one family occupied three and sometimes four rooms; food and clothing were scarce, and sunshine seemed to be an unknown quantity; three and four children slept in one room and in some instances, the windows were not only shut, but nailed down tight; is it to be wondered at that these children are in delicate physical conditions with sluggish mentalities? How can mental evolution go on normally when so many detrimental factors are against it? That some of these children are only one and one-half to two years backward seems remarkable. Remove these children from this depressing environment and give them plenty of nourishing food, clothes, and fresh air, and I daresay the results will be gratifying.

In looking over a class of backward children, the examiner finds that a certain percentage are of foreign birth; these children may have been in the country for a short period and as a result, have considerable difficulty with the English language. Frequently when inquiries are made, especially about children of Russian or Italian birth, it is found that they had very little or no schooling abroad. It is very easy to understand what effect the lack of educational training will have in making a child backward. Irregular school attendance is given as another cause of backwardness; this may be brought about by habitual truancy or in cases where the parents move often.

From the foregoing, it can be seen that in the large majority of cases of backward children, some etiological factor can be found which is, directly or indirectly, responsible for the mental sluggishness. Having studied each case carefully and ascertained the cause of backwardness, the question naturally arises, "What can be done for the child?" The answer to a certain extent is obvious. The old principle applied to medicine can also be used here. "Remove the cause, and the effects will partially disappear." The various physical defects found upon examination should receive prompt attention with a view to ultimate correction; careful inquiries should be made regarding the home conditions; as far as is possible, the child should be removed from depressing home influences; the child with an hereditary predisposition to certain constitutional diseases should receive early and vigorous attention. *It is the duty of the physician not only to relieve existing conditions, but to prevent their recurrence;* the underfed child should receive a good nourishing diet and if necessary the assistance of charitable institutions should be enlisted in the child's behalf.

Although the removal of the physical defect or an environmental change will arouse new interest in the child, we must not lose sight of the fact that we are dealing with a child whose mentality has been blunted for a considerable period of time. The pedagogical records show that the child is one, two, or perhaps several years behind in the work done by children of the corresponding age; to place such child in a class with normal children with the idea that he will "catch up" with the other children, would be the height of folly; discouragement and indifference would be the result of such procedure.

Having ascertained the degree of backwardness which is generally indicated by the difference between the mental and chronological ages, our aim should be to find a scholastic environment suitable to the mentality of the child. *It is an established fact that the backward child needs individual attention;* placed in a class with forty or forty-five other children, it is practically impossible for the teacher to give the child all the attention necessary and do justice to the other members of the class. As individual training is essential, it is advisable to place the child with a small group of backward children where special attention can be given to each.

Experience has taught that in order to handle these backward children properly, not more than twelve to fifteen children should be placed in one class. The problem which confronts the teacher of such class is by no means an easy one. Here are several children who, for various reasons, have fallen behind in their work; careful observations show that this backwardness manifests itself in various ways: William Smith, age ten years, has reached the 3A grade but is unable to do the work of that grade; his tonsils and adenoids have been removed and his vision has been corrected; the pedagogical records show that he is not proficient in number work, reading and spelling; he can do 2A number work fairly well and his reading and spelling are about the average 2B; on the other hand, Sam Jones, age eleven years, has reached the 4A grade but is deficient in all subjects; he can do 3A reading and number work, but only 2A spelling. We can readily see that although the degree of backwardness is practically the same in both cases (about two years) nevertheless, the course of study outlined for the Jones boy cannot be applied to the Smith child.

It is essential that each child be studied *individually;* only after careful observations can the " weak spots " be brought to the surface; having found the deficiency, the curriculum should be adapted accordingly; the improvement which results from this individual training must be gradual and any attempt to make the child " catch up " within a specified time will prove fatal.

Foreign children who become backward as the result of the lack of educational training or difficulty with the English language, should be placed in a so-called " foreign class." It is advisable that children of one nationality be grouped together and an effort should be made to secure a teacher of the same nativity. They should be encouraged to speak the English language and instructed to mingle with American children as much as possible.

When shall the " backward " child return to the grades? No fast rule can be laid down regarding this question; the teacher is to be the sole judge; if, as the result of individual training, the child shows a marked improvement in his work, and when special tests show that his mental age is almost if not up to his chronological age, he shall be placed in a grade on observation; the mental capacity of the child will indicate the proper grade; should he exhibit particular aptitude for the work of that grade within a reasonable period of time, he is no longer to be regarded as a backward child; however, if after repeated efforts he is unable to " keep up " with the class, he may be observed in a lower grade or returned to the special class.

A NEW FIELD FOR RESEARCH.

By T. D. CROTHERS, M. D.,

Hartford, Connecticut

Every thoughtful person recognizes the tremendous importance that is centering about the alcoholic problem. Politically, it is already the subject of intense activity, which is going to increase and become a very large question, that must be answered at the polls to-day and in the future. Voting to abolish its sale or to license it involve a great many questions which have a medical aspect and must be answered by physicians. Morally, over half of all religious denominations of this country have what is called temperance committees and are waging the most active war against the saloon and the sale of spirits as a beverage. Socially and economically, the positive injury from alcohol is becoming more and more vivid from every statistical study and examination of the facts. Thus, life insurance companies find it a very serious menace to their prosperity. Health boards and health commissions are confronted with the fact, which grows with every new study, that alcohol is a very pronounced and most prominent factor in diseases and degenerations. Up to a recent period, the medical profession have been conservative and more or less indifferent to the influence of alcohol on questions of health and disease. Half a century ago when inebriety was called a disease, the profession united with laymen in bitter criticisms of this so-called fad. Temperance men and temperance workers have been looked down upon as extremists and foolish enthusiasts deserving little or no serious attention, but the subject has grown despite all opposition. A few years ago the quacks forced the profession to recognize the disease side by their claims of cure. A few scientists who were made astonished by laymen undertook to disprove them by exact study of the facts. Curiously enough, they all reached opposite conclusions and some of the leading authorities of Europe and this country have become ardent anti-alcoholics, denying its value, even as a medicine, and condemning its use in every possible way. The laboratories have taken up the study of the effect of alcohol on cell and tissue and have literally revolutionized all previous opinions concerning the stimulant and food value of alcohol. A wealth of facts has opened up in this direction and the modern physician is obliged to give up his previous conception and recognize the teachings of science as a far greater value than opinions and prestiges. The surgeon and clinician must recognize these new studies if he would avoid conflict with advanced scientific teachings and public sentiment. The whole subject will concentrate about the opinions of medical men. They are the final authorities and of all others should be prepared to give wise counsel. The moral and political side of the subject will, of course, be prominent wherever physicians fail to educate the public, and as a result there will be confusion of theory and practice. The laboratory has shown a wealth of facts concerning the action of alcohol on cell and tissue, that has scarcely been touched yet and the condition has revealed an equally startling mass of facts unstudied and unexplored. The great watchword of driving out the saloon as the effective remedy for the ills which follow, fails in many ways. While it is most commendable and, from a layman's point of view, is the most practical measure possible, yet, when studied scientifically, this measure does not go far enough back. It does not reach the real causes, which are at the bottom of the alcoholic evil. It is not stopping the typhoid germs from trickling into the watershed and producing the epidemic; it is studying the effects and the water from which it is supposed to come, and leaving the source unknown. The disease and deaths from alcohol are most interesting studies and give little or no intimation of the vast undiscovered country from which these streams of degeneration come.

The phenomena and symptomology of alcoholism and inebriety is most complex and confusing and, unlike any other disease or degeneration, cannot be stated in terms of exactness. The lay literature is simply voluminous on this point and the medical literature follows in the same confusional way, simply because the causes are unknown. What makes men drink spirits is as much a mystery to-day as Central Africa was fifty years ago. Fortunately, there are a great many collateral facts and distinct intimations from medical studies in hospitals and at the bedside that point to this new realm. Every practicing physician is in constant contact with psychical and physical causes concerning the drink evil, which, if they knew how to interpret, would result in as great discoveries as that which come from electricity. One fact seems to be generally agreed upon, that the alcoholic and all the degenerative classes are being born and bred to-day in our homes and communities and will appear tomorrow with the same absolute certainty that plants grow from seeds in favorable soils. Preventative medicine has scarcely touched this subject, because it has been concerned with effects more than the study of causes. In a few instances the possibilities of medical work in this direction have been almost phenomenal. As a result, many fevers and so-called scourges and smallpox have practically disappeared. This is the line of future discovery and work.

A research foundation has been organized at Hartford, Conn., to study the causes back of the saloon and back of the use of alcohol, to find out what propelling forces drive men to the use of spirits and narcotics against their better judgment. What conditions, inherited, or acquired from neutritional, chemical and bacterial sources, force and develop a species of degeneration which calls for anaesthesia and narcotism? That is the new study and it goes back to sources and causes that have never been studied before, only in a general and most cursory way. Physicians, by their training and contact with the family life and history, are in the best possible condition to appreciate and assist in such a work. It is assumed that the facts are abundant, only needing corralation, examination and study, and from this study there will come new measures and new means for prevention and treatment that will bye and bye not only stamp out this evil but many associated ones and lift the race to a higher level of health. It is work along this line that will be the final consummation of the great temperance problem and how they can be overcome.

STRABISMUS AND ITS TREATMENT.

Read before the Medical Society of the County of Albany, November 23, 1916

By EDWARD A. STAPLETON, M. D.,
Albany, N. Y.

In reading this paper on squint, its causes and treatment, my idea is to present same so that it may be some use to the general practitioner and not the specialist who is already familiar with most of the material I am to present. Yet, feel that some points may be of interest to the specialist, although he may not fully agree with same.

We will first take up the definition of squint or strabismus. In Dorland's Medical Dictionary the following definition is given:

"It is a deviation of one of the eyes from its proper direction, so that the visual axes cannot both be directed simultaneously at the same objective point."

Squint may be subdivided into three classes: First, when the eye turns in, called Internal Squint, Internal Strabismus or Esotropia, also called Convergent Strabismus; second, when the eye turns out, called External Squint, External Strabismus, Strabismus Divergens, Insufficiency of the Interni and Exotropia; and third, Vertical Squint, Vertical Strabismus or Hypertropia, the eye turning up or down, or the elevation of one visual axis above the other.

As to the Cause or Etiology of Squint.

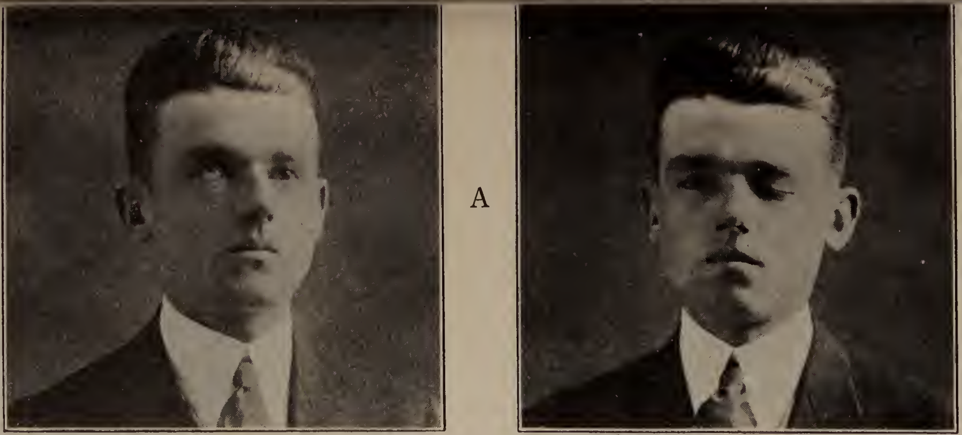
No one thing can be said to cause squint, many factors entering into the cause and many things that might be said to cause squint are admitted.

Donders was one of the first to come out with a theory for the cause of squint, which was accepted for a long time, and which still explains the cause of a great many cases. He says that it depends on the abnormal convergence stimuli set up by the refractive error, this being particularly the case in internal squint.

Worth, of London, believes that most cases of squint are due to insufficient fusion power and that the trouble is of a central rather than a local lesion. Francis Valk, of New York, says that the true cause of squint resides in the muscular balance of the eye, as a weak muscular action of the internus, the externus overacting, or vice versa.

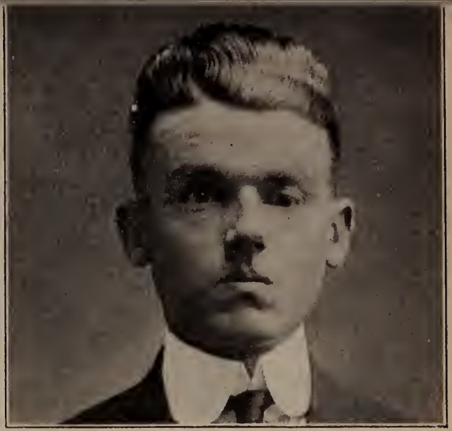
Von Sicherer believes that injuries to the eyes at the time of delivery have much to do with squint and amblyopia which we find in later years, caused at that time by hemorrhage into the retina destroying part of it. It would be interesting to ascertain just how many hard instrument cases have developed strabismus. I can remember one of my own cases when I was doing general practice, in which I exerted considerable strength, where the child developed a squint at about the sixth month.

Heredity seems to play a large part in the cause of squint. At present I have a boy nine (9) years old, with an internal



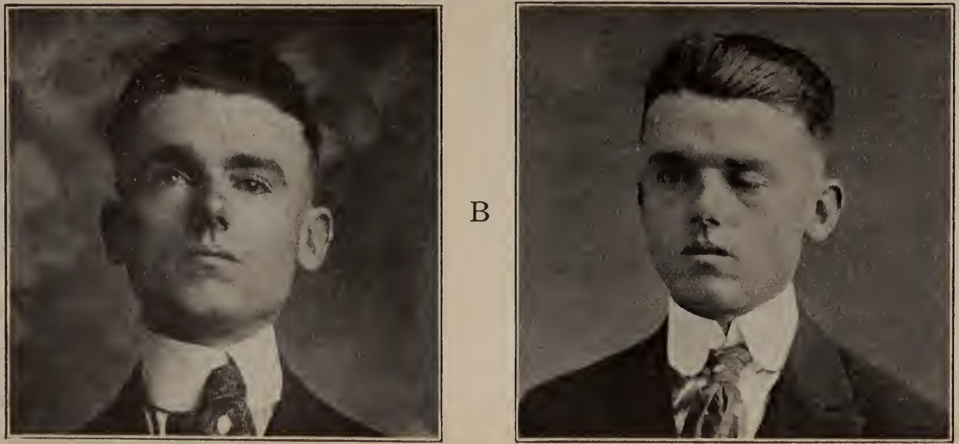
A

A. Shows patient's pictures after tenotomy of Superior Rectus, right eye. Before tenotomy only white of eye was visible. Picture 1, fixing with left eye, right eye turned up. Picture 2, fixing with right eye, left eye turned down.



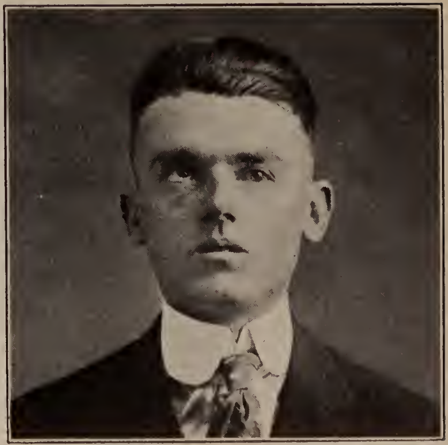
C

C. Patient using eyes, elevating left lid with Frontalis Muscle.



B

B. Shows patient after an advancement of Inferior Rectus, right eye and partial tenotomy of Inferior Rectus, left eye. Note position of eyes when fixing with each separately.



D

D. Shows patient fixing with both eyes after complete tenotomy of Inferior Rectus, left eye, and advancement of Levator Palpebrae left eye.

strabismus, who has a paternal aunt who is cross-eyed and three other paternal aunts, each of whom has one cross-eyed child.

Internal squint may be constant or alternating; in the first instance, the patient always fixes with the same eye (vision usually good in that eye) while the other eye deviates (vision bad in this eye). In alternating internal strabismus, the patient can fix with either eye, while the other is deviated, vision in either eye being about the same. Hope to present such a case tonight. External strabismus may be constant or alternating. In the constant, the one eye fixes while the other turns out; in the alternating external strabismus or exotropia, the patient fixes with either eye while the other is turned out. In the first, the vision is poor in one eye and good in the other; in the alternating type, the vision is about the same in both eyes and usually fairly good. External strabismus or exotropia is usually found in myopes and internal strabismus or esotropia in hyperopes. Internal strabismus usually shows itself early in life while external strabismus seldom shows up until about puberty.

Another interesting fact is that 80 per cent of the cases of internal strabismus affect the left eye, while the right turns out in the same percentage in external strabismus.

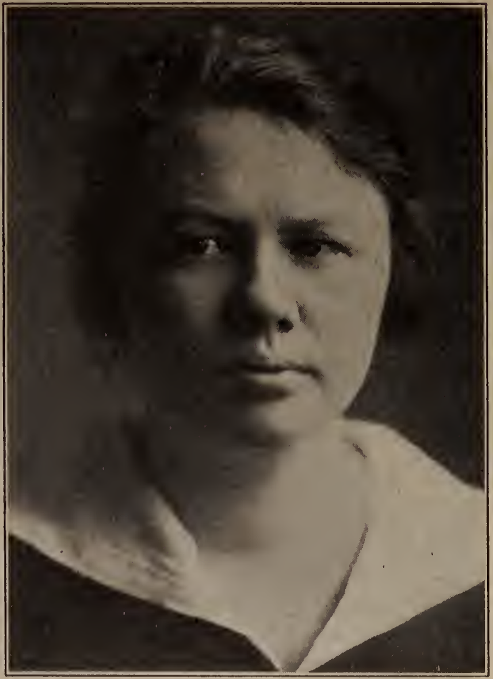
Vertical strabismus may also be divided into a constant and an alternating type. The former, constant type, is when one eye always does the fixing while the other deviates upward or downward, and patient usually has a partial or total loss of vision in the deviating eye. The alternating is when the vision is about the same in both eyes and patient fixes with either eye, while the other turns upward or downward. Will present a case similar to the last mentioned,—one very extreme and unusual.

SYMPTOMS.

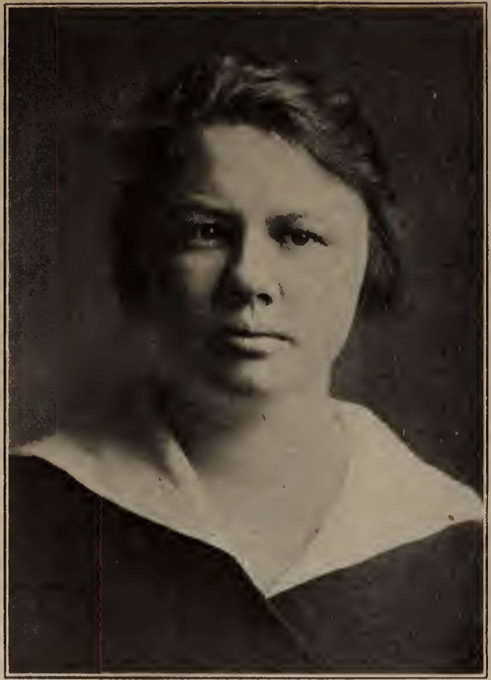
The symptoms are:

First, subjective:—Two of these patients who were operated upon, alternating internal and external cases, came for relief from the severe headaches from which they were suffering, headaches of three and four days' duration at a time. The third had pronounced headaches when stooping over and working, which was a vertical strabismus case.

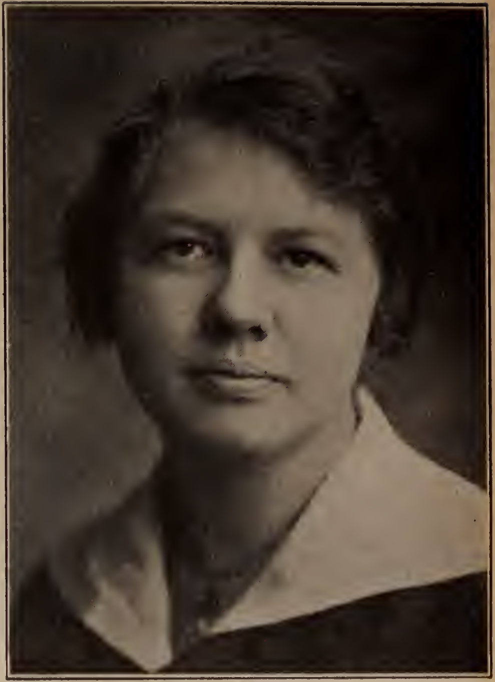
GROUP II—ALTERNATING INTERNAL STRABISMUS



1. Shows patient fixing with right eye, left eye turned in.



2. Shows patient fixing with left eye, right eye turned in.



3. After operation. Showing patient fixing with both eyes.

Second, objective:—Objectively, the physician notices that while one eye is fixing, the other eye is turning in, out or up. Different tests and measures are used of which I will only mention as the cover test, the perimeter measure, the linear measure, the diplopia test and the tropometer.

Treatment.

The treatment of squint may be non-operative or operative, depending upon the kind of squint, age of patient, etc., etc.

If a squint is noticed in a child by the family physician, he should not advise the parents that the eyes will in all probability straighten up all right, or that the child will grow out of it. Perhaps the eyes may straighten, but usually you will find that the eye which had deviated is now partly blind, a condition which probably could be averted if the child had been treated when first noticed.

The treatment in youngsters consists in refracting carefully under atropine and prescribing the proper correction. This can be done in children as early as a year old. The atropine is usually continued in the fixing eye for some weeks, allowing the deviating eye to return to normal and making it do the work, thus developing the retinal function.

Worth's amblyoscope is used for the education of the fusion faculty, also the stereoscope.

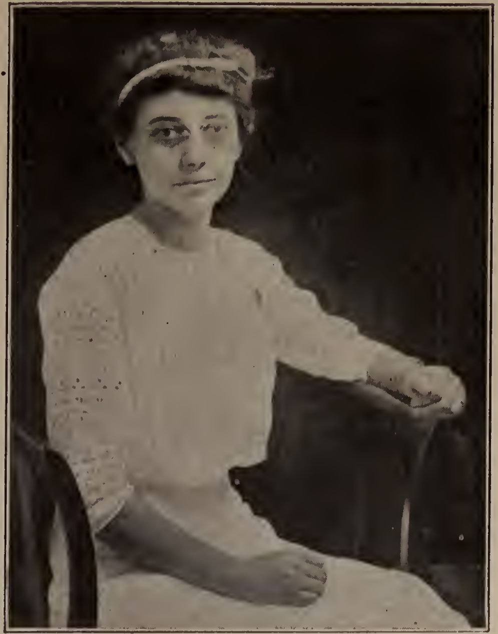
Men differ as to the right time for operating. Some say that operation can be performed as early as five, others that the best time is around nine years of age, while in the Vienna clinics they prefer to operate after the fourteenth year.

Some operators prefer doing a simple tenotomy, others the advancement, while others choose to combine the above two, doing in some cases a partial or total tenotomy of the muscle that is deviating the eye from the normal axis. At present the advancement operation is the most used, as operators feel that they can control the results better, doing a partial tenotomy later if necessary.

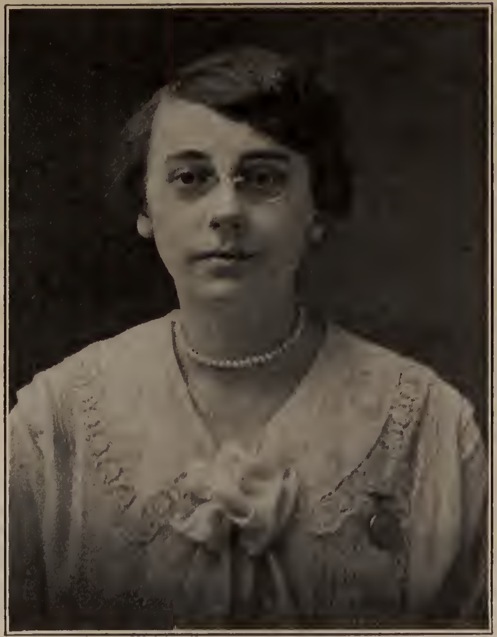
In concluding, I present three cases operated upon:

Case I.—Alternating internal strabismus. Patient Miss C. C., aged 25, first seen September 16th, 1916. Complains of severe headaches, that

GROUP III—ALTERNATING EXTERNAL STRABISMUS



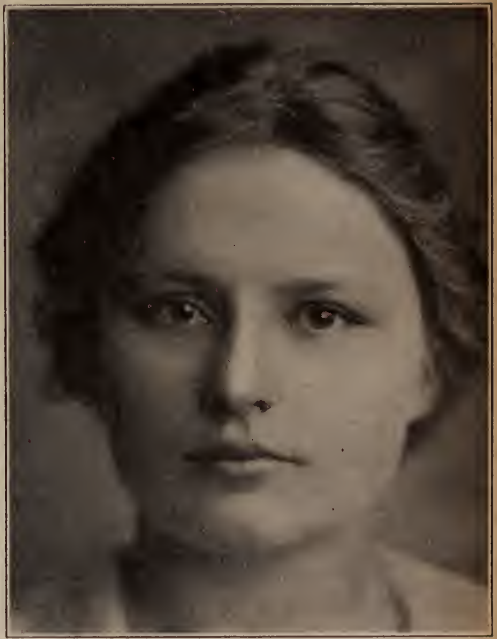
1. Shows patient before operation, fixing with right eye, left turning out.



2. Shows patient fixing with both eyes after operation.

IV—CASE OF EXOTROPIA AND HYPERTROPIA (CONSTANT)

RESULT AFTER OPERATION



Before operation right eye turned up about 10° and out about 20°. Was unable to get picture of patient before operation as she was extremely sensitive about the eye.

sometimes last three or four days. Pain radiates from back of head to temporal region. Vision at time of examination was 10/10 with either eye. Resection and advancement of both external recti was performed, correcting muscle condition and cosmetic appearance. Patient has been relieved of headaches. This patient was operated September 18th, 1916.

Case II.—Alternating external strabismus. Patient Mrs. C. J., aged 31. Date of first examination July 3rd, 1915, at which time patient complained of headaches for the past three years, worse of late and almost constant. Past history: Had spinal meningitis when three years of age. Vision, R, 12/10 L, 10/10. Wearing on R. eye + 1.50 D. Sph. and on L. + 1.25 D. Sph. Had about 30° of squint. Did a complete tenotomy of both external recti and a resection and advancement of both internal recti. I over-corrected patient producing 30° esophoria by the rotary prism, which showed up September 29, 1915, two days after operation. On October 1, 1915, there were but 11° of esophoria present and in July, 1916, the muscles balanced. Patient has been relieved of headaches and appearance improved.

Case III.—Vertical strabismus. Patient Mr. J. R., aged 21. Examined March 2, 1915. Complained of headache when stooping. When fixing with right eye, the left eye turned down as though it were closed, and when fixing with left eye, the right eye turned up, so that only the white of the eye was visible, about 25° of squint being present, a condition present since birth. Vision, R. 1/10, L. 2/10. Wearing R.-1.00 D. Cyl. ax 90, and L.-1.00 D. Cyl. ax 90, with which he was able to get 310. Under homatropine and cocaine took: $\frac{\text{R.-0.50}}{\text{—3.00, 15}}$ $\frac{\text{L.-1.25}}{\text{—3.00 ax 165}}$ with which he got 5/10 and 6/10. The first operation April 22, 1915, was a tenotomy of the superior rectus of the right eye, the second, May 21, 1915, was a partial tenotomy of the inferior rectus of the left eye and an advancement of the inferior rectus of the right eye, and the third June 21, 1916, was a complete tenotomy of the inferior rectus on the left eye and an advancement of the levator palpebrae of the left lid. Had a slight infection of the lid incision but it did not appear to affect the operation in any way.

THE MEDICAL ADMINISTRATION OF HEALTH INSURANCE.

By A. C. BURNHAM, M. D.

Since the introduction of the Mills bill in the State Legislature last winter there has been a gradually increasing interest displayed by the medical profession as to the part the physician must play in the administration of any system of insurance against sickness, which has recently come to be known as "health insurance."

Health insurance was introduced in Germany about thirty years ago. After an extensive trial by Germany it was finally adopted by the other countries of Europe, so that today some modification of health insurance is found in both France and England as well as in many of the smaller countries of Europe.

If such a system is to be introduced into America, it would be the wisest policy for the physicians to post themselves fully upon the provisions of any act introduced to this end, so that they may make their influence felt to insure a practical, satisfactory and economical working of the strictly medical sections of the law.

The American Association for Labor Legislation, which is not, as its name might imply, an association in any way connected with trades unionism, through its committee on social insurance, has long been at work upon a tentative draft of an act* to insure the industrial wage-earner against disability due to sickness and injury. The committee consists of philanthropic workers, economists, physicians, statisticians, and others, who are working unselfishly for the betterment of the present day conditions.

Health insurance is not, as is sometimes imagined, simply another method by which labor attempts to harass capital, nor is it a means for more complete capitalistic control of the wage-earner. Indeed, if it were to be given a short definition it might better be termed "a method for the socialization of the practice of medicine," which would characterize its chief function and make its other provisions subsidiary to this. The theories of health insurance are sound and are based upon the belief that injury and disability of the human body should be included in the cost of production just as logically as injury and depreciation of machinery. It is upon this theory that the committee has apparently based its procedure and shaped the proposed law.

Whether one believes in the principle of health insurance or not it is impossible to mistake the motives of those who are responsible for its introduction in this country and any discussion of the subject must grant this in the beginning.

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* Health insurance, standards and tentative draft of an act. Copies may be secured from J. B. Andrews, secretary, 131 E. 23d street, New York City.

Briefly, the act contemplates the care of the health of all wage workers, including their dependents, whose yearly wage is $1,200 or less. Needless to say this will include a large proportion of the population and will require for its administration the services of a large number of physicians and nurses.

Just as protection against fire and theft have become more and more centralized with the passage of time, so must protection against sickness and disability progress toward centralization in spite of attempts of those within and without the medical profession to prevent it.

The powers of the state and municipal health boards have increased enormously within recent years and, in its broad sense, health insurance is only a further increase in the duties of a centralized health authority, in this case under the control of the state. In the third draft of the act (May, 1916) the question of medical administration is much more thoroughly dealt with than was the case in previous editions. It is now planned to have a physician on the Social Insurance Commission and provision is made for consultation with representatives of the medical profession on medical matters.

The benefits of the act, as outlined in section 7, are:

Medical, surgical and nursing attendance;
Medicines and surgical supplies;
Cash benefits;
Maternity benefits;
Funeral benefits;
Medical and surgical attendance and medicines for dependents.

The medical service includes the care of the sick by legally qualified physicians and nurses and hospital treatment when indicated. To quote from section 10:

"Provision for medical aid shall be made by the carriers by means of either:

"1. A panel of physicians to which legally qualified physicians shall have the right to belong, and from among whom the patients shall have free choice of physician, subject to the physician's right to refuse patients on grounds specified in regulations made under this act; provided, however, that no physician shall have on his list of insured patients more than 500 insured families nor more than 1,000 insured individuals;

"2. Salaried physicians in the employ of the carriers among which physicians the insured persons shall have reasonable free choice.

"3. District medical officers, engaged for the treatment of insured persons in prescribed areas;

"4. Combination of above methods."

If the medical profession is to be employed under the act, it lies in its power to exert its influence to make for the successful medical administration of the law and it is the duty of physicians to read and study the act so that they may be able to decide intelligently upon those provisions which may have especial bearing upon the future of the medical profession.

Recently, the writer has strongly advocated the state administration of health insurance by means of a State Department of Health somewhat along the lines of the Medical Department of the United States Army. There is much to be said in favor of such a plan and very little against it except that it will cause opposition to the act by the medical profession. Whether it is entirely practical or not is yet to be decided.

The panel system has been tried in England and under conditions as they were before the war was decidedly unsatisfactory both to the physician and the insured. The salaried physician in the employ of the insurance carriers may be ideal or may be open to serious abuses depending upon the character of the physicians employed. If uncontrolled it may become no better than the contract or lodge practice which has been open to so many evils. The method of district medical officers approaches the State Health Department plan and seems to have more advantages and to be open to fewer abuses than either of the other methods. This question is discussed in the booklet of the Committee on Social Insurance as follows:

"Proper provision for medical care is one of the most important problems in the efficient administration of health insurance. The tentative plan—many of the details of which should be left to regulations to be made by the Commission and the medical advisory board—allows each fund or approved society to select the method of administration suitable to local conditions. Where the fund chooses the panel system, any legally qualified physician may join the panel, and the insured workmen shall have free choice among the physicians undertaking insurance practice. Since this system may not prove practicable in all districts, freedom should be left to provide medical care through other methods, such as salaried physicians, among whom there should be reasonable free choice, through physicians responsible for specified districts, or through any other method approved by the Commission."

Having decided upon the plan of service best adapted to the needs of the profession, the wage-earner and the state, it next becomes the duty of the medical profession to come to an agreement with the state as to the method of payment for services rendered.

Shall we have a fixed fee per visit as in some of the present compensation laws or shall we receive a per capita fee as is the custom in England? Both of these methods are open to serious objection and are not giving satisfaction wherever they are instituted upon a large scale.

It must be remembered that in these cases the insurance carriers will be losing money for the disability of each and every wage worker and that it is for their best interest to limit the period of disability as much as possible. To this end they must secure the best medical care that the available cash will secure. Except in the case of the insured dependents of the wage-earner, there will be nothing to be gained by penurious methods in dealing with the medical benefits. It will be the desire of the insurance carrier even more than the patient to secure the shortest possible period of disability compatible with good health.

The design of the physician should be similar to that of the insurance carriers, but not for the same reason. The carriers will to all intents be fined for every day's illness after the fourth day. On the other hand, if the physician is paid by the fee system, we find that his remuneration will increase just so long as his patients remain sick. If the carriers are powerless to indicate their own preferences as to the physician they employ, they will be working at cross purposes with the doctor whose salary they must pay. I will prognosticate that under these circumstances it will be no unusual thing to find patients kept away from work for two weeks or longer, because of an ordinary cold, just as I have seen patients under the present New York State Compensation Law, away from work for from twelve to fourteen weeks with a simple Colles' fracture and three or four weeks with a slight abrasion of the hand.

Theoretically the most satisfactory service would be obtained by salaried officers whose duty coincides with the best interests of the patients and of the community.

Upon this subject the Committee on Social Insurance says in part:

" The capitation payment, of so much per person per year, common now in lodge practice, has in it elements which bring about an undue amount of work, and in turn forces neglectful, hurried service to the patients. Another plan is that of engaging a salaried physician, similar to the arrangements now made by many railroads. Since no fund could employ many physicians, the limited choice of doctor might be unfavorably regarded by some of the insured persons. The advocates of this system claim that it offers peculiar advantages of selecting the physician most desirable for this work, and thus obtaining better service. A third method, payment per visit, is also possible. To the medical profession this method may be preferable because it establishes a quantitative relation between services and remuneration, and to the patient because it probably secures more careful attention from the doctor and thus eliminates the chief fault of the capitation system. On the other hand, medical care under this system may put a heavier burden upon the funds administering benefits. A compromise between this and capitation may be made by which a total sum, calculated on the per capita basis, is distributed among physicians in accordance with the services rendered by each. Instead of the elaborate fee schedule common under workmen's compensation, a more simple arrangement is made whereby a physician is paid pro rata for office and house visits. Although this effectively meets the chief objection to a capitation payment, it may be undesirable to the physician since the actual payment for each visit may decrease in proportion as work increases. However, the provision of a fixed amount divided according to services has administrative advantages since the total amount paid for medical aid is a fairly constant charge upon each fund.

"But whichever system be adopted, one thing is clear; all medical service to the insured will be paid for, including the unremunerated dispensary practice of today. The problem becomes one of deciding which method of arranging for the 100 per cent. collections of the future is preferable, in the interests alike of patients, doctors, and administrators."

From the above it is apparent that the whole question of remuneration for the physician under any health insurance act is a very complicated one and it is impossible in the limits of this paper to more than indicate the different methods of payments and some of the objections which may arise. Remember, there is to be a fixed annual amount to pay for the medical care of a given number of wage-earners and this must be distributed so as to do the most good. Let us suppose that the medical insurance premiums for 1,000 insured amounts to $5,000, that is, $5 per capita. How shall this be expended to the best advantage? If the sum be less than $5,000 the problem becomes more difficult; if the individual premium is greater than $5, it becomes correspondingly easier to secure the type of services desired.

It is evidently the purpose of the Committee to make a fixed sum for medical benefits go as far as possible toward the care of invalid and disabled wage-earners. How this may be best accomplished is the question before the medical profession.

Editorial

> For the cure of wounds, the Spaniards found the Mexican remedies most efficacious. Cortes himself was cured by one of their doctors of a severe wound in the head, received at Otaneba, through which we lately passed. For fractures, for humours, for everything they had their remedy; sometimes pulverizing the seeds of plants, and attributing much of their efficacy to the superstitious ceremonies and prayers which they used while applying them, especially those which they offered up to *Tzapotlatenan,* the goddess of medicine.
>
> *Life in Mexico* MADAME CALDERON DE LA BARCA

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Medicine and the Church.

There can be no question of the debt of medicine to the church. Whatever the defects of practice arising from ignorance, from credulity, from superstition, or even from expediency, the healing art took fresh vigor from the compassion for suffering, which is one of the vital elements of Christianity. Even through the Dark Ages of crude and empiric methods the practice was sustained to inaugurate and aid the brighter scientific period. The influence of the church may be seen to-day in the architecture and administration of hospitals in which the long corridors, flanked on either side with rooms, and the administration in the hands of religious orders recall the era of the monasteries. There is good reason for this persistence of the ecclesiastical idea, for the church can hardly be said to accomplish its whole duty when it fails to provide for the distresses of its members. With the advent of scientific medicine however, intolerance was manifested. The great epidemics of the Middle Ages demanded more universal action and relief than could be afforded by limited organizations, and municipal hospitals sprang into existence. In these hospitals originated clinical observation and practice, and at about the same time the pioneer anatomists, against the opposition of the church, began the study of the structure of the human body, which was the inspiration of modern medicine. Science, of course, recognizes no creed, and the ruthless laws of nature are not susceptible to modification by ritual. Church hospitals remain, and should remain, as a necessary expression of the charity of mankind, but their existence is assured only upon liberal recognition and application of technical progress. The best methods of science are available, and expert administration is required for every institution, whether secular or religious. There may be contention and doubt as to the correctness of many theories of practice, but there should be no controversy between religion and science when the comfort or life of the individual is at stake.

There were some curious and almost humorous incidents in the European trip of Miss Dorothea L. Dix in the early fifties. Miss Dix had spent many years in an aggressive and successful campaign in the various states of the Union for the relief of the neglected insane. She conceived the plan of securing a grant from Congress of twelve million acres of land for the creation of a fund for the relief of the insane, the blind, and the deaf and dumb. Six years she labored in the interests of this legislation, and in 1854 attained success in so far as to accomplish the enactment of the necessary laws by Congress. President Pierce, however, vetoed the bill, and depressed in spirit and exhausted from this crushing reverse Miss Dix retreated to Europe for recuperation. Within a month of her arrival her interest was aroused, and with characteristic indomitable spirit she invaded Scotland and proceeded to investigate the abuses of the insane. The campaign was a short and aggressive one. The Scottish officials were not sympathetic, and Miss Dix hurriedly journeyed to London to lay her findings before the Home Secretary. Success attended her efforts and Sir George Gray, in a speech before the House of Commons, advocated the necessary remedies but " deplored the fact that the inauguration of so needed a reform should have been left to the initiative of a foreigner, and that foreigner a woman, and that woman a dissenter." After some similar activities on the Channel Islands, Miss Dix traveled upon the Continent, and in Rome " found a hospital for the insane so very bad I set about the difficult task of reform at once, and during the fourteen days I was there, so far succeeded as to have Papal promise and Cardinal assurance of immediate action in remedying abuses and supplying deficiencies." Miss Dix was cordially received by Pope Pius IX, but His Holiness adjourned the conference to permit personal investigation. "At the second audience granted Miss Dix, the Pope freely acknowledged his distress at the condition of the asylum, and warmly thanked her, a woman and Protestant, for crossing the seas to call to his attention these cruelly treated members of his flock."

In Constantinople Miss Dix found the Turkish institutions to be above criticism, and the Mohammedan hospitals better managed than those of Italy. It appeared that this superior condition was due to the work and influence of a Turkish gentleman who had been impressed with the conduct of Paris hospitals.

This experience of Miss Dix's is rather a surprising revelation of liberality of thought and religious feeling. Three-quarters of a century ago the Church of England, the Church of Rome, the Mohammedan and a "Dissenter" found common ground in work for the relief of the sick.

Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.
ABSTRACT OF VITAL STATISTICS, DECEMBER, 1916.
COMPILED BY WILLIAM F. FULLGRAFF, REGISTRAR.

Deaths.

Consumption	20
Typhoid fever	1
Scarlet fever	0
Measles	2
Whooping cough	0
Diphtheria and croup	3
Grippe	4
Diarrheal diseases	2
Pneumonia	12
Broncho pneumonia	8
Bright's disease	15
Apoplexy	7
Cancer	11
Accidents and violence	8

Deaths under one year	21
Deaths over seventy years	36
Death rate	18.40
Death rate less non-residents	16.05

Deaths in Institutions.

	Non-Resident.	Resident.
Albany Hospital	10	11
Albany Hospital Camp	0	6
St. Peter's Hospital	1	3
Homeopathic Hospital	2	7
St. Margaret's House	0	3
Child's Hospital	1	0
Albany County Hospital	4	0
Hospital for Incurables	1	1
Home for the Aged	0	2
Maternity Hospital	1	7
Public places	2	1
	22	41

Births	198
Still births	10

BUREAU OF COMMUNICABLE DISEASE.

Cases Reported.

Typhoid fever	12
Scarlet fever	12
Diphtheria and croup	15
Chickenpox	117
Measles	69
Whooping cough	0
Tuberculosis	41
Mumps	4
Septic sore throat	2
Trachoma	4
Ophthalmia neonatorum	1
Total	277

Number of days quarantine for scarlet fever:
Longest...... 36 Shortest...... 30 Average...... 31 5/10
Number of days quarantine for diphtheria:
Longest...... 30 Shortest...... 10 Average...... 16 1/4
Fumigations:
Houses.................. 32 Rooms.................. 207
Milk bottles disinfected.................................. 45

COMMUNICABLE DISEASE IN RELATION TO SCHOOLS.

	D.	S.F
Public School No. 17	1	3
Public School No. 18	..	1
Albany Business College	..	1
Lady Help of Christians	..	1
St. Patrick's Institute	..	1
St. Ann's School	2	1
Blessed Sacrament Institute	..	1

TUBERCULOSIS.

Living cases on record December 1, 1916		637
Cases reported:		
By card	41	
Dead cases by certificate	0	
		41
		678
Dead cases previously reported	20	
Dead cases not previously reported	0	
		20
Living cases on record January 1, 1917		658
Total tuberculosis death certificates filed during December, 1916		20
Non-resident deaths:		
Albany Hospital Camp		1
Resident deaths		19

Tuberculosis	50
Scabies	5
Total	55
Physicians visited	16
Investigations	7

BENDER LABORATORY REPORT.

Diphtheria.

Initial positive	22
Initial negative	188
Release positive	24
Release negative	57
Suspicious	6
No growth	3
Total	300

Sputum for Tuberculosis.

Positive	28
Negative	67
Total	95

Widals.

Positive	19
Negative	26
Suspicious	13
Total	58

Wassermann tests	135
Milk analyses	19

BUREAU OF NUISANCES.

Complaints made	36
Inspections	62
Plumbing	41
Sanitary	21
Reinspections	79
Plumbing	36
Sanitary	43

HEARINGS.

Cases heard before health officer	7

Nature of Cases.

Filthy premises	2
Manure	3
Plumbing	2

Disposition of Cases.

Abated	4
Ordered for reinspection	3

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

Inspections	210
Old houses	63
New houses	147
Permits issued	70
Plumbing	68
Building	2
Plans submitted	36

Old buildings	14
New buildings	22
Houses tested	45
Peppermint	3
Water test	42
Houses examined	21
Re-examined	59
Valid	5
Without cause	16

DEAD ANIMAL REPORT.

Horses removed	28
Dogs removed	195
Cats removed	202
Total	425

BUREAU OF MARKETS AND MILK.

Public market inspections	19
Market inspections	112
Fish market inspections	11
Packing house inspections	1
Rendering plant inspections	1
Slaughter house inspections	1
Milk depots inspected	11
Milk houses inspected	39
Milk cans inspected	240
Dairies inspected	39
Cows examined	455
Cows quarantined	3
Lactometer readings	97
Temperature readings	97
Fat tests	62
Sediment tests	42
Chemical tests	35
Bacterial counts	53
Complaints investigated	1
Cans condensed milk condemned	15

MISCELLANEOUS.

Cards posted for contagious disease	20
Cards removed	14
Notices served on schools	177
Notices served on factories	20
Notices served on stores	11

Postal card returns sent to doctors		20
Postal card returns received from doctors		12
Inspections and reinspections		28
Work certificates issued to children		22
Vaccinations		9
Cases assigned to health physicians		65
Calls made		119
Garbage collected from 1st district	bbls.	178
Garbage collected from 2nd district	bbls.	173
Garbage collected from 3rd district	bbls.	201

Hospital and College Notes

Edited by Clarence F. Graham, M. D.

ALBANY HOSPITAL.

The past three months have been a period of notable progress at the Albany Hospital. In spite of the burden of debt under which the hospital was laboring, the Board of Governors saw fit to incur a further expense in the changes to be described, and the results already obtained have amply vindicated the wisdom of their decision.

The operating suite has been entirely refinished, with the addition of necessary plumbing and electrical fixtures, and the scrub-up room for the staff has been enlarged and modernized. A dark room for eye, nose and throat operations has been prepared, and several new sterilizers have been installed. These changes, though long planned, were finally made imperative by the great increase in operative work in this department.

The enlargement of the scrub-up room made possible the addition of a small detention room to the children's ward. Here all children can be quarantined for some days before being admitted to the general ward.

An entirely new clinical laboratory has been constructed on the top floor of the building formerly used as the Nurses' Home and vacant for the last two years.

The rapidly increasing importance of laboratory procedures for medical diagnosis has made this "clinician's operating room" as necessary as the surgeon's operating room, and the clinical laboratory has been organized as a separate department of the hospital under the supervision of the medical service. Nine rooms have been completely outfitted with benches, plumbing and apparatus, leaving about half of the floor free for later expansion as this becomes necessary. The laboratory group comprises a receiving room for specimens, a stock room, an office, laboratories for the medical and surgical divisions, a photographic dark room, a pathological room, a physiological room, and a large chemical laboratory. Subsidiary to the main laboratory are a ward laboratory adjoining ward D11 for student use, a laboratory for the use of the staff, and small laboratories connected with the South End and Hospital Dispensaries. A graduate nurse gives her entire time to the management of the clinical laboratory and even enters the laboratory reports in the histories. The fortunate circumstance of the hospital's connection with the Albany Medical College will make it possible to maintain a chemical department for a fraction of the expense which this entails upon hospitals not so situated. The professor of Physiological Chemistry of the Medical College is ex-officio consulting chemist to the hospital, and a technical assistant will soon be trained for the routine work. The rapid extension of accurate chemical investigation to the problems of diagnosis and treatment promises to make the chemical laboratory an essential part of every modern hospital in the near future, and the Albany Hospital is indeed to be congratulated on having recognized this necessity so early.

The organization of the clinical laboratory has already resulted in a great increase in the laboratory work done in the hospital, as indicated by the report for the month of December, 1916:

Single specimens of urine examined	485
Twenty-four hour specimens	74
Stool examinations	15
Gastric contents	1
Quantitative sugar estimations	12
Phenolsulphonephthalein tests	23

In December the hospital was visited by Dr. Winford H. Smith, the superintendent of the Johns Hopkins Hospital, who, at the request of the Board of Governors, made a general survey of the institution and submitted a report embodying his recommendations for a constructive program.

On January 1, 1917, Miss Sally Johnson assumed the position of Superintendent of Nurses. Miss Johnson was formerly assistant superintendent of nurses of the Peter Bent Brigham Hospital in Boston. She is a graduate of the Massachusetts General Hospital, and the McLean Hospital of Waverly. Miss Johnson brings with her associates of her own selection to fill the positions of Operating Room Supervisor, Head Nurse of the Tuberculosis Sanitorium, and Instructress in Practical Nursing.

The Board of Governors of the hospital has decided upon a campaign with the purpose of raising $350,000 to clear away past indebtedness and provide for future extension along constructive lines. The recent improvements in the laboratory have involved a considerable outlay, and will add noticeably to the running expenses, while not directly producing more revenue. The financial campaign will be started in the near future, and it is sincerely to be hoped that it will attain its goal.

ALBANY MEDICAL COLLEGE.

Under the direction of the State Department of Health, a clinic for the after care of poliomyelitis victims was held in the Albany Medical College on January 12. The clinic was open to the medical profession and the interested public, and many visitors registered during the morning and afternoon sessions, while the patients were examined and their treatment outlined. The anteroom to the dean's office served as a waiting room for patients as they entered the building, and the clinical histories were taken in the office itself. A dressing room was improvised from the students' smoking room, and the patients, when prepared for examination, were taken into the newly furnished physiological laboratory where the twenty-four firmly constructed laboratory benches answered admirably as examining tables. For the adult patients the research rooms served as dressing rooms, and movable screens were utilized to subdivide the larger room.

Dr. Robert Lovett of Boston conducted the clinic, and his organization was a splendid example of what such a working team should be. With three medical assistants, over a dozen nurses, and several stenographers and volunteer helpers, the examinations were conducted with a machine-like thoroughness and speed that made a most satisfactory impression. The nurses, working in pairs, tested every accessible muscle group of the body, first for gross paralyses, and then by spring balances for the actual degree of paralysis, when any was discovered. Abnormal findings were recorded on printed record sheets of unusual completeness so that Dr. Lovett could at once arrive at the essential condition and demonstrate the unusual features of each case to the interested circle of spectators that surrounded him. In case the physician in attendance upon a patient was present, the demonstration was directed to him, and in his absence, a report was dictated on the spot, with an outline of the suggested treatement to be mailed at the close of the clinic. Certain necessary orthopedic apparatus was sketched and immediately ordered from the Harvard Medical School shop when the parents of patients so desired. A number of the more interesting cases were exhibited in the amphitheater on the second floor.

It is not the purpose of those in charge of the clinics to take the control of the cases out of the hands of the original attendant, but rather to assist him in his treatment by their wider experience. Accordingly, where muscle training is necessary, the health authorities will instruct the physician in the proper method of application, if he wishes, will instruct the family, or will send a nurse to carry out the treatment.

Many of the cases date only from the past summer or autumn, and are not yet ready for any active measures, but the clinic has been of great value if it has only backed up the enforcement of a "masterful inactivity," and kept the insistence of impatient parents from compelling harmful exercises.

This clinic in Albany is but one of a series which the State Department of Health is conducting in the various affected districts, and at least one more clinic will be held in Albany after a suitable interval to continue the after care of the cases already examined. Many ounces of prevention could not prevent the epidemic and the State is equally liberal with its pound of cure.

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR DECEMBER, 1916.—Number of new cases, 229; classified as follows: Dispensary patients receiving home care, 35; district cases reported by health physicians, 3; charity cases reported by other physicians, 53; moderate income patients, 69; metropolitan patients, 69; old cases still under treatment, 525; total number of cases under nursing care during month, 754. Classification of diseases for the new cases: Medical, 31; surgical, 14; gynecological, 3; obstetrical under professional care, mothers 52, infants 40; eye and ear, 1; skin, 0; throat and nose, 2; dental, 0; infectious diseases in the medical list, 83; surgical list, 33. Disposition: Removed to hospitals, 14; deaths, 19; discharged cured, 116; improved, 39; unimproved, 19; number of patients still remaining under care, 547.

Special Obstetric Department.—Number of obstetricians in charge of cases, 2; students in attendance, 2; nurses, 2; patients carried over from last month, 1; new patients, 4; patients discharged, 3; visits by head obstetrician, 0; by attending obstetrician, 24; by students, 10; by nurses, 31; total number of visits for this department, 65.

Visits by Guild Nurses (all departments).—Number of visits with nursing treatment, 1,308; for professional supervision of convalescents, 497; total number of visits, 1,805; paid cases, 764; charity cases, 544; unrecorded cases, 497; cases reported to the Guild by 1 health physician, and 49 other physicians, graduate nurses 8, certified nurses 2, pupil nurses 5 on duty.

Dispensary Report.—Number of clinics held, 90; new patients, 73; old patients, 338; total number of patients treated during month, 411. Classification of clinics held: Surgical, 11; nose and throat, 9; eye and ear, 14; skin and genito-urinary, 6; medical, 11; pre-natal, 5; lung, 9; dental, 0; nervous, 3; stomach, 5; children, 9; gynecological, 8.

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR YEAR 1916.—Number of new cases, 2,219; classified as follows: Dispensary patients receiving home care, 206; district cases reported by health physicians, 48; charity cases reported by other physicians, 610; moderate income patients, 846; metropolitan patients, 509; old cases still under treatment, 540; total number of cases under nursing care during year, 2,759. Classification of diseases for the new cases: Medical, 365; surgical, 134; gynecological, 45; obstetrical under professional care, mothers 515, infants 460; eye and ear, 22; skin, 7; throat and nose, 9; dental, 0; infectious diseases in the medical list, 652; surgical list, 10. Disposition: Removed to hospitals, 182; deaths, 268; discharged cured, 1,210; improved, 430; unimproved, 122; number of patients still remaining under care, 547.

Special Obstetric Department.—Number of obstetricians in charge of cases, 5; students in attendance, 15; nurses in attendance, 7; patients carried over from last year, 1; new patients during year, 48; patients discharged, 47; visits by head obstetrician, 2; by attending obstetrician, 309; by students, 234; by nurses, 446; total number of visits for this department, 991.

Visits of Nurses (all departments).—Number of visits with nursing treatment, 15,434; for professional supervision of convalescents, 8,109; total number of visits, 23,543; paid cases, 9,411; charity cases, 6,023; unrecorded cases, 8,109; cases reported to the Guild by 7 health physicians, and 135 other physicians, graduate nurses 8, certified nurses 2, pupil nurses 7 on duty.

Dispensary Report.—Number of clinics held, 1,066; new patients, 1,568; old patients, 4,836; total number of patients treated during year, 6,404, Classification of clinics held: Surgical, 152; nose and throat, 96; eye and ear, 190; skin and genito-urinary, 79; medical, 144; pre-natal, 8; lung, 88; dental, 0; nervous, 41; stomach, 41; children, 127; gynecological, 100.

Medical Society of the County of Albany.—A special meeting of the Medical Society of the County of Albany was held at the Albany County Court House, Wednesday, January 10, 1917, at 8.30 p. m. Dr. S. J. Kopetzky, New York City, addressed the Society on "The Medical Plan Under Compulsory Health Insurance." A resolution was adopted opposing the plan.

The regular meeting of this Society was held at the Albany Court House, Thursday, January 18, 1917, at 8.30 p. m. The following papers were read: "Infectious Arthritis," Dr. W. T. Shields, Troy, N. Y.; "Tarsalgia and Metatarsalgia," Dr. E. W. Hannock, Albany, N. Y.; "Obstructions of the Esophagus," Dr. F. C. Myers, Albany, N. Y.

Medical Society of the County of Schenectady.—The regular meeting of the Medical Society of the County of Schenectady was held in its rooms in the New County Building, Tuesday, January 9, 1917, at 8.30 p. m. Scientific program: "Simplified Infant Feeding," Dr. R. H. Dennett, New York City.

A special meeting of this Society was held Tuesday, January 16th, at 8.30 p. m. Dr. James F. Rooney, of Albany, addressed the Society on

Compulsory Health Insurance. The Society passed unanimously a resolution in which is stated its strong opposition to the plan as now proposed.

Saratoga Springs Medical Society.—The regular meeting of the Saratoga Springs Medical Society was held at the Elks Club, Friday, January 19, 1917, at 8.30 p. m. Program: Paper, "Actinomycosis," Dr. G. S. Towne. Report of cases by Doctors Resseguie, Ledlie, Loop and King.

Medical Staff of the Albany Hospital.—The regular meeting of the Medical Staff of the Albany Hospital was held at the hospital, on Saturday, January 20th, 1917.

State Department of Health.—A free clinic for the after care of paralysis following cases of poliomyelitis was held by the State Department of Health, at the Albany Medical College, Albany, N. Y., on Friday, January 12, 1917, from 9 a. m. to 5 p. m.

Resignations from St. Peter's Hospital.—Dr. Elting and Dr. Donhauser have declined appointments to the staff of St. Peter's Hospital in the following letters addressed to the Rev. Mother Berchmaans, who is in charge of the Hospital. Dr. Elting writes:

"The notification of my appointment as chief surgeon of St. Peter's Hospital has just been received. In all other hospitals with which I am acquainted this is a purely honorary position, and, inasmuch as four attending surgeons have been appointed, I am left without any ward service. I am therefore in a position of responsibility without any power to insure what I regard as the proper treatment of the patients, which is the chief and essential function of the hospital. I am unwilling to assume this responsibility and must decline the appointment.

"I should also like to have the public of Albany know that I am in no way connected with the hospital and not responsible for the future conduct of the surgical department.

"It is with deep regret that I sever my connection with the institution, to which, over a period of many years, I have devoted my best endeavors."

Dr. Donhauser's letter states:

"It is with regret that I tender my resignation as assistant attending surgeon at St. Peter's Hospital. I have for several years taken a deep interest in the public work at the hospital with Dr. Elting as chief of the surgical department, and the recent radical changes induce this step on my part."

Cost of Foot and Mouth Disease.—The combined expenditures of the federal and State governments for fighting foot and mouth disease last year was $9,000,000, according to the report of the United States Bureau of Animal Industry.

TREATMENT OF THE INSANE IN THE CANAL ZONE.—The transfer of the American insane patients under treatment in the Panama Canal Zone to the Government Hospital for the Insane in the District of Columbia, has been recommended by the secretary of war. The secretary has asked for the enactment of the legislation necessary for this purpose. It is planned, however, on ascertaining the legal residence of any such patient, to return him to the place of such residence. The secretary of the interior, under whom the Government Hospital for the Insane is administered, and the superintendent of the hospital have approved the plan.

OLEOMARGARIN FROM PASTEURIZED DAIRY PRODUCTS.—After June 30, 1917, milk and cream used in the preparation of oleomargarin must be pasteurized and the butter used for this purpose must be made only from pasteurized dairy products, according to service and regulatory announcements of the United States Bureau of Animal Industry. Proprietors and operators of official oleomargarin-producing establishments will be required to furnish inspectors with satisfactory evidence that the butter used is only made from such products, and to give advance information of proposed sources of the butter supplies so that the matter of pasteurization can be investigated in cases of doubt. In lieu of the use of butter made from pasteurized dairy products, however, the butter itself may be pasteurized by heating it to a temperature of not less than 180° F.

BAN ON HEROIN.—All physicians of the United States Public Health Service have recently been ordered not to dispense any heroin for any purpose hereafter, and to return to headquarters any quantities of the drug they may have on hand. This action has been taken in the hope of counteracting the increasing use of heroin throughout the country.

AMERICAN CONGRESS ON INTERNAL MEDICINE.—The first scientific session of the American Congress on Internal Medicine which was chartered only last year, was held at the Hotel Astor, New York City, on December 28th and 29th, under the presidency of Dr. R. W. Wilcox who addressed the members on "The Domain of Internal Medicine and the Purport of the Congress." On the first day of the Congress, there was a discussion on the "Ductless Glands in Cardio-vascular Diseases and Dementia Precox" and on the second day of the Congress, a symposium on "Duodenal Ulcer."

RED CROSS MEETING.—At the annual meeting of the American Red Cross, December 13, 1916, the treasurer's report showed that the organization had expended $543,535 during the eleven months preceding December 1, for war relief, exclusive of hospital and medical supplies sent abroad.

HOSPITALS FOR INSANE OVERCROWDED.—The State Hospital Commission reports that $2,000,000 a year for the next five years must be spent to provide for the insane in New York. There are 34,000 insane persons in the State hospitals, which have a normal capacity of 28,000. The commission favors the construction of a new hospital at Mohansic and of new buildings at Marcy near Utica where 1,500 of the insane of New York City could be sent.

UNITED STATES PUBLIC HEALTH SERVICE.—Dangers of Pellagra Increase. —That there may be an increase in pellagra during the coming year on account of the rise in the cost of food-stuffs is the fear expressed in a statement issued by the U. S. Public Health Service to-day. As a result of government researches it was found that pellagra is produced by an insufficient, poorly-balanced diet and that it can both be prevented and cured by the use of food containing elements in the proportion required by the body. The application of this knowledge greatly reduced pellagra in 1916 as compared with previous years. This reduction is believed by experts of the Public Health Service to have been due to improved economic conditions which enabled wage-earners to provide themselves with a better and more varied diet and to a wider dissemination of the knowledge of how the disease may be prevented. It is feared, however, that pellagra may increase in 1917 by reason of an increase in food cost out of proportion to the prosperity now enjoyed by this country. The great rise in the cost of forage, particularly cotton seed meal and hulls, is causing the people in many localities to sell their cows and thus there is danger that they will deprive themselves of milk, one of the most valuable pellagra preventing foods. The high cost of living has further served to bring about a reduction in many families in the amount of meat, eggs, beans and peas consumed, all of which are pellagra prophylactics. In effecting economies of this nature the general public should bear in mind the importance of a properly balanced diet and refrain from excluding, if possible, such valuable disease preventing foods. It is believed that unless this is done there will be a greater incidence of pellagra next spring.

PERSONALS.—Dr. FREDERIC CROUNSE (A. M. C. '90), has removed from Altamont to 92 Willett street, Albany, N. Y.

—Dr. RALPH SHELDON (A. M. C. '94), is practising at Lyons, N. Y.

—Dr. CHARLES W. TOMLINSON (A. M. C. '15), is engaged in active practice at Amsterdam, N. Y.

DIED.—Dr. JAMES A. CLYNE (A. M. C. '86), a Fellow of the American Medical Association, once president of the Will County Illinois Medical Society, for twenty years local surgeon of the Chicago and Alton Railroad, health commissioner of Joliet in 1893 and 1894 died at his home recently, from disease of the throat, aged 56.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

A Manual of Gynecology and Pelvic Surgery for Students and Practitioners. By Roland E. Skeel, A. M., M. S., M. D., Associate Clinical Professor of Gynecology, Medical School of Western Reserve University; Visiting Surgeon and Gynecologist to St. Luke's Hospital, Cleveland; Fellow of American Association of Obstetricians and Gynecologists; Fellow of American College of Surgeons. Two hundred and eighty-nine illustrations. Philadelphia: P. Blakiston's Son & Co.., 1916. Price $3 net.

As stated in the preface, this manual is intended to furnish a concise, practical working knowledge of gynecology with especial emphasis upon diagnosis and treatment. A great deal of information on the subject of diseases of women is crowded into this little manual. The book is well arranged and the illustrations are excellent. There are many book references intended for collateral reading by students. The author is to be commended for the acknowledgment of indebtedness to those writers whose opinions, methods, etc., he may have copied. This book is more complete than some manuals on this subject, and treats gynecology as a "highly specialized branch of surgery with a close relationship to obstetrics and demanding a thorough knowledge of general medicine for a proper appreciation of its relative importance in the medical field with its multiplicity of specialties." This book is to be highly recommended for medical students and general practitioners. T. L.

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ALBANY MEDICAL ANNALS

Original Communications

ALBANY MEDICAL COLLEGE.

DIGEST OF THE REPORT OF THE DEAN FOR THE YEAR 1915-1916.

BY THOMAS ORDWAY, M. D.

To the Board of Trustees of the Albany Medical College, the Medical Department of Union University:

Gentlemen.—I have the honor to submit my report for the year ending May 31, 1916. During the past year, in connection with the reorganization of the Albany Medical College, there were numerous changes in the personnel of the teaching staff and in the courses of instruction. These changes are, for the most part, indicated in the announcement of the Albany Medical College for 1915-1916.

Administration. Owing to the complete reorganization of the Medical College the problem of administration has become somewhat more complex. A comprehensive system of records and accounts has been installed. A purchase journal and distribution book afford a convenient method for supervising departmental expenses. The arrangement of departments adopted permits almost unlimited flexibility for expansion and facilitates rapid comparison of receipts and expenditures so that any leakage may be quickly ascertained.

It is hoped that quarterly meetings of the Board may be held during the next year. It is expected that these, together with the meetings of the Executive Committee and committees appointed for special purposes will result in at least one meeting a month which will serve to keep the Trustees in intimate relation to the work of the Medical College. It is suggested that the fiscal year be changed to July 1 to June 30 (inclusive).

Finances. Members of the Board of Trustees have pledged fifty thousand dollars to meet deficits in running expenses, and to this have added one thousand dollars, which had been previously subscribed to the building fund. During the past year the bequest of twelve thousand dollars has been received from the estate of the late Professor John M. Bigelow toward endowment of the teaching in diseases of the nose and throat. As the students' fees amounted to only about two-thirds of the total receipts it will be seen that the cost of instruction for each student, which will continue to grow larger, already considerably exceeds the tuition fee.

Admission Requirements and Advancement of Students. Arrangements have been made to perfect the pre-medical course at Union College by requiring that both German and English be taken in addition to biology, physics and chemistry. It is expected that in the near future, not later than 1918, two years of pre-medical work will be required for admission to the Albany Medical College. It is deemed very undesirable to admit students to advanced standing except in unusual circumstances. Many of the students applying for admission to advanced standing come from medical schools of low grade or wish to make a change because of deficiency in studies or other difficulties.

Special Departments. In speaking of the various departments of the Medical School a brief statement of what has been accomplished in the past year will be given, also suggestions and recommendations for future development.

Members of the State Departments of Education, Health, Agriculture, Labor, the City Department of Health, the Albany Law School and others eminent in special public health work and related fields gave the following lectures during the past year:

October 20.—Dr. HERMANN M. BIGGS, Commissioner of Health of the State of New York: subject, "The Public Health Law of New York State."

October 27.—C. E. A. WINSLOW, Anna M. R. Lauder Professor of Public Health, Yale Medical School, Yale University, New Haven, Conn.; Chairman, New York State Commission on Ventilation: subject, "Fresh Air and Health."

November 3.—THEODORE HORTON, C. E., Director of Division of Sanitary Engineering, New York State Department of Health: subject, "Water Supplies."

November 10.—THEODORE HORTON, C. E.: subject, "Sewage Disposal."

November 17.—C. T. GRAHAM-ROGERS, M. D., Director of Division of Industrial Hygiene, New York State Department of Labor: subject, "Industrial Hygiene and Prevention of Occupational Diseases."

December 1.—HENRY L. K. SHAW, M. D., Director of Division of Child Hygiene, New York State Department of Health: subject, "Infant Mortality."

December 8.—GEORGE E. WILLCOMB, Chemist, Bureau of Water, Albany: subject, "Water, Conditions Affecting Its Quality and Control."

December 15.—FRED M. MEADER, M. D., Director of Division of Communicable Diseases, New York State Department of Health: subject, "Prevention and Control of Common Communicable Diseases."

January 5.—WILSON G. SMILLIE, M. D., Instructor in Preventive Medicine, Harvard Medical School, Boston, Mass.: subject, "Septic Sore Throat."

January 12.—HENRY N. OGDEN, C. E., Professor Sanitary Engineering, Cornell University: subject, "The Sanitary Engineer and His Relations to Public Health."

January 19.—AUGUSTUS B. WADSWORTH, M. D., Director of Laboratories and Research, New York State Department of Health: subject, "The Laboratory of the New York State Department of Health."

February 9.—THEODORE HORTON, C. E.: subject, "Garbage Disposal."

February 16.—MICHAEL J. MCDONOUGH, Major, U. S. Army Corps of Engineers: subject, "Military Sanitation."

February 23.—LINSLY R. WILLIAMS, M. D. Deputy Commissioner, New York State Department of Health: subject, "Milk and Its Relation to Public Health."

March 8.—JAMES I. WYER, Jr., Director of New York State Library: subject, "Books, Libraries and Public Health."

March 22.—GEORGE L. FLANDERS, Counsel, New York State Department of Agriculture: subject, "Foods and Beverages."

March 29.—ARTHUR SAUTTER, M. D., Health Officer, City Bureau of Health: subject, "City Health Administration, Contagious Diseases and Nuisances."

April 5.—ROBERT W. HILL, Superintendent, Department of State and Alien Poor, State Board of Charities: subject, "The Social Influence of Mental Defects."

April 12.—GEORGE B. NICHOLS, Chief Engineer, State Department of Architecture: subject, "Mechanical Equipment of State Institutions."

April 19.—ALDEN CHESTER, Justice of the Supreme Court: subject, "Medical Expert Testimony."

April 26.—WILLIAM A. HOWE, M. D., State Medical Inspector of Schools, New York State Department of Education: subject, "Medical Inspection in Schools."

May 3.—Cressy L. Wilbur, M. D., Director Division of Vital Statistics, New York State Department of Health: subject, "Vital Statistics."

May 10.—H. B. Winters, Deputy Commissioner, New York State Department of Agriculture: subject, "Sanitary Phases of Milk Production."

General Plan of Instruction. The general plan of instruction during 1915-1916 has proved extremely satisfactory. This plan in the first two years has the advantage of economizing the students' time and concentrating their attention and it also allows an amount of time equal to that devoted to teaching for special research by the instructors which is so necessary for the recognition of a medical school as conducted in an approved manner and without which the teachers fail to keep up with the developments in their respective subjects and become mere routine teachers.

The second year class is the only one which was affected in any way by the change in the curriculum due to the reorganization and to them, therefore, unusual concessions should be made regarding additional instruction by special courses in physiology, chemistry and anatomy and in the type of final examination in physiology. During the last two years of the medical course, the so-called clinical instruction, the students in the third year acted as assistants in the dispensaries and in the fourth year as assistants in the hospital wards actually helping in the care of the patients and receiving, under close supervision, practical instruction and first hand knowledge.

Clinical Facilities. The clinical facilities have been improved particularly by the fact that the South End Dispensary has come under the control of the Albany Hospital. The development of the medical dispensary at the South End and at the Albany Hospital is due in great part to the energy and efforts of Dr. Clarence F. Graham, formerly of Johns Hopkins Medical School and the Rhode Island General Hospital.

Fees. It has seemed desirable to maintain the tuition fee at $160 as during the past year; it has been necessary, however, owing to increased expense of chemicals because of the war abroad, to charge a special fee of $15 for dissecting material.

Library. The Medical College owes its sincere thanks to Mr. Wyer and his assistant, Miss Ray, for the great help which they

THE DISSECTING ROOM

have given not only by the general coöperative attitude of the State Library but in the actual instruction given to medical students with particular reference to the sources of medical literature.

Anatomy. During the past year numerous alterations and repairs have been necessary in order to put this department on a working basis. The low studded loft in the attic, lighted by gas and without heating facilities was entirely inadequate for proper work by the students and at the suggestion of Dr. Baldwin the large high studded well lighted room, formerly occupied as a museum, has been rearranged and the floor space devoted to the simple substantial tables previously provided for use in dissection and an electric lighting system has been installed so that two adjustable lights are available for each table at which only two students work. Each dissects half of the cadaver and has a special stand with drawing board for the support of books and drawing material. A large sink with hot and cold water has been placed in the corner of the room. Numerous instruments have been purchased for use in gross anatomy. The museum material has been sorted, that which is of practical value in anatomy has been placed in the wall cases for ready reference, that which has partaken more or less of the nature of curiosity has been stored in the balcony. Every specimen has been saved. A small room off the large dissecting room has been fitted up as a shop with tools so that simple apparatus and repairs may be made. A room adjoining the shop which is also entered from the main corridor has been supplied with the latest books and atlases on anatomy and embryology for immediate reference. It is also planned to devote a portion of this room to drawing and photography. The corner room adjoining has been fitted up as the private office and laboratory of the professor of anatomy and has been supplied with the apparatus and reagents necessary for histological and embryological investigation. Four large galvanized iron tanks have been constructed for gross, so-called wet specimens including special dissected preparations and frozen sections. The room in the northern corner of this floor is utilized for aquaria that certain living forms of lower animals may be studied, particularly as relates to their development and this room is used as office and technical room for the instruction in anatomy. The room adjacent to this is used as a dissecting room for the prosectors and the small room next to this, leading into the dissecting room, has been made into an improvised coat room in which a few lockers have been installed. For the course in embryology and histology the room over the former inorganic chemistry laboratory has been altered so as to serve the purpose of an histological and embryological laboratory. Two more windows have been cut in this room, the walls and ceiling have been painted, thirty individual oak desks with drawers and lockers and numerous tables have been provided and electric lights have been installed. The small glass room in the corner has been made into a serviceable supply room. Paraffine ovens, incubators, microtomes, chemicals and other apparatus and reagents for the teaching of histology and embryology have been purchased. This laboratory has also been used by the course in clinical pathology. This room has been connected with the main building by a stairway and a door leading to the balcony of the dissecting room. Next year, however, it will be necessary to have a stairway leading directly into the dissecting room. It is probable that comparatively little alteration in the way of repairs will be necessary in this department during the coming year.

The following statement from Dr. W. M. Baldwin, the professor of anatomy, will indicate his opinion concerning the work in the department of anatomy during the past year:

> Permit me to call your attention to some features of the work in the department of Anatomy and more particularly to the subject of teaching during the first term which has ended.
>
> As you are well aware, the medical schools in general in this country found, upon raising their entrance requirements to from two to four years of academic work with certain prescribed subjects that a certain amount of readjustment of the laboratory courses in pathology, physiology, anatomy, etc., was thereby made necessary or desirable. Students better trained and more mature could cover greater ground in an equal time. That readjustment resolved itself into either giving the same amount of time to the subject as before, but with a greater penetration of the subject with a great abridgment of time. I may say that I can

HISTOLOGICAL LABORATORY

speak only of the experience of anatomists in the working out of these two methods. It has been found by the reputable departments of anatomy, after several years of experience, that the latter alternative is unwise and not altogether desirable, and that the first method is applicable only in those instances where the student has received a good academic training in the general subjects of zoology, vertebrate and invertebrate, comparative morphology, general and experimental biology, and in vertebrate histology and embryology. I must emphasize the fact, however, that these readjustments have followed as an effect does a definite cause without which latter the readjustments would never have been possible. I have with design repeated these well-known facts since to my mind the shortcomings of the courses in Anatomy which have just ended are so very largely referable to causes directly connected with them.

The specific weakness of the students lies, first in untrained and immature minds and, secondly, in an utter ignorance of the general principles of vertebrate morphology, descriptive and comparative, and in general descriptive and experimental biology.

The work in the department of anatomy appears to me to have been unusually successful when it is realized what radical changes were made and the small amount of time and money available with which to make them.

Certain of the men in the first year class, whose work was so poor that it was also a detriment to the other students, were notified and the matter was talked over with their parents, it being fully explained that it would be necessary for a very marked improvement in the quality of their work if the student expected to pass and it was suggested that unless this could be accomplished it would seem that considerable money might be saved by the students taking up other work. A similar conference was held with the students and parents after the mid-year examinations. As a result of this five students decided to leave college. It should be understood that particular attention had been given to these students by the professor of anatomy and his assistant in an endeavor to bring them up to the standard but it is evident that in every class certain men have not adequate training or mental endowment which is necessary for further progress in a medical school without seriously affecting the quality of instruction which is important to the class as a whole. It seems very desirable that the fact should be freely discussed in a kindly manner with such students and particuiarly with their parents before they have spent a large amount of money without avail and that these men should not be encouraged in the extravagance in time, effort and money in repeating years, for in certain instances even two or more years have been repeated a number of times. It is believed that this policy of carefully scrutinizing the work of the students in the first year and, if necessary, rejecting them even in the middle of the year will have a very favorable influence upon the work of the future years in the medical school and in the type of graduates.

During the year a few students and surgeons have made use of the facilities provided by the department of anatomy to familiarize themselves with the anatomical landmarks and operative technique of certain operations. Dr. Baldwin, the professor of anatomy, has undertaken and, indeed, made considerable progress on the investigation of the effect of the X-rays upon certain unicellular organisms. This work has been made possible owing to the coöperation of the General Electric Company at Schenectady who have provided Dr. Baldwin with a laboratory and the necessary equipment and assistants and given advice in physical and chemical matters. Dr. Baldwin has already established the fact that paramecia or so-called slipper animalculæ will be readily killed in a few minutes by exposure to X-ray when immersed in a solution of indigo carmine of non-toxic strength whereas they are resistant to much more intense raying over a period of as much as ten hours when immersed in certain other solutions. He has observed certain striking cytological changes which may throw light upon the mechanism of this action of the X-rays. Dr. Baldwin will continue and extend these investigations in the future. Mr. W. E. McCorkle, instructor in anatomy, has continued his investigation of the musculature of the intestinal tract in man and animals as a subject for his thesis for the degree of Doctor of Philosophy.

Physiology. It was necessary to purchase considerable physiological apparatus such as electrical, recording and other instruments so that the students might have an opportunity for individual experimental laboratory work which is so important for any adequate conception of biological or other sciences. Dr. Gruber and his assistant were able to reduce the expense by

PHYSIOLOGICAL LARORATORY

personally making a considerable amount of apparatus and preparing a large number of charts. The course in physiology during the session of 1915-1916 was given at the Bender Laboratory but in certain ways was not entirely satisfactory owing to the use of the laboratory by other departments which occasioned certain conflicts in the hours. For the session 1916-1917 it will be necessary to fit up in a simple manner a physiological laboratory in the medical school building on Eagle street. It is planned to convert the large chemical lecture room on the first floor into a physiological laboratory, the small rooms adjacent to it on the north may be utilized for certain physiological material. Owing to its proximity to the research laboratory for biological chemistry and the students' laboratory in physiological chemistry this room should prove particularly satisfactory and the expense of primary alteration should be counterbalanced by the opportunity to use apparatus in the adjacent rooms above mentioned. The work of the professor of physiology has been made unusually difficult this year for owing to the change in the curriculum the first and second year classes had certain exercises together in this department although the courses given to each were not identical.

During the first half of the year Dr. Gruber was able to complete an investigation started while he was at the University of Pennsylvania. He was able to prove conclusively that an electrical stimulation applied to certain peripheral nerves of the same intensity which has hitherto been supposed to cause only a rise in blood pressure may fail to produce a rise or even cause a fall in blood pressure if the same intensity is maintained but the rate of stimulation reduced.

The following is a report of the Department of Physiology by Professor Charles M. Gruber:

> The preparation of the laboratory, purchasing of new apparatus enough to finish the fitting out of five tables, and to furnish entire ten additional tables, the repairing of the old apparatus, the making of ten ergographs and eight perimeters, occupied a good portion of the fall term. The new equipment made it possible to give a thorough course in physiology. The remainder of the fall term was spent upon research, the preparation of lectures and in giving a short course in physiology to the nurses of the Albany Hospital Training School for Nurses during November and December.

Teaching. The course in Physiology occupied the entire morning six days a week (about 408 hours) during the spring term. It constituted laboratory work, special demonstrations, lectures, recitations, written examinations and theses. The laboratory work filled by far the largest part of the time (approximately 233 hours). Here the students in threes performed the experiments and each student kept in his manual records of his observations to be inspected by the teacher from time to time. Ten half-hour periods during the term were devoted to the discussion of the laboratory work for the purpose of clearing up any difficulties which might have presented themselves. Lantern slides made from the most typical records obtained in the class room were presented during such conferences.

Special experiments (occupying in all about twenty hours) were performed before the students to demonstrate points which could not well be worked out by the students themselves. This makes a total of 253 hours spent on laboratory work alone.

Seventy-seven lectures were given during the term. The students were required to do collateral reading in standard text books. Covering the work thus studied eighteen recitations and seven written examinations were given.

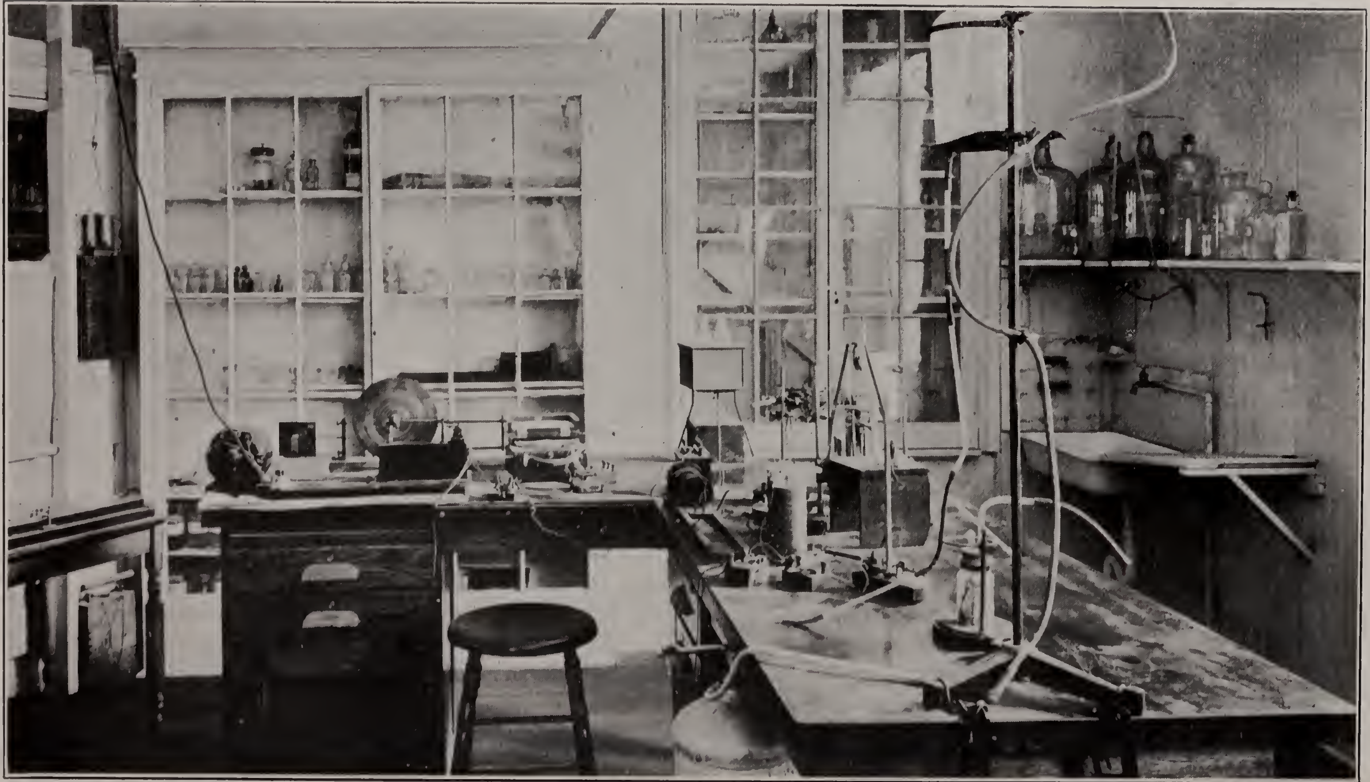
Aside from the class room work each student was required to do special reading on a subject approved by the professor, a resumé of which the student read before the class. About fifty hours of the 408 were allowed for this work. This teaches the student not only what has been done on a certain subject but also how to look up literature on other subjects in the *Index Medicus* and other general reference books.

A short course, to cover the work not touched upon last year, was given to the men of the second year class. They were also given the privilege of taking the entire course as given to the first year class.

Improvements for Next Year. Next year Physiology will be given at the Albany Medical College. The large lecture room on the first floor is now being remodeled and equipped with tables for physiological and pharmacological work. One end of the present lecture room will be partitioned off to form one large and one small research room and an office which can be converted into a private laboratory with very little further expense if it is needed. Cases will be installed against the walls for storing materials. A small room adjoining the large laboratory will serve as a store room. With these changes and the purchase of a few more pieces of apparatus the laboratory will be absolutely first class.

The moving of the laboratory to the medical college building will be far more convenient for the students and will make possible a cooperation, obviously impossible under the old arrangement, between the Department of Physiology and the other departments of the medical school.

Research. Although the preparation of the laboratory for the spring term occupied a good portion of the fall term some time was devoted to



LABORATORY FOR PHYSIOLOGICAL RESEARCH

research. Two investigations begun at the University of Pennsylvania were completed. One, "The Vasomotor Response as Affected by Different Rates of Stimulation," which was presented at the annual meeting of the American Physiological Society, is now ready for the printer. The other will, in the course of the summer, be prepared for publication.

Pharmacology. A brief report may be given here on the pharmacology work. This course was also given by the Department of Physiology. The part of the course dealing with pharmacy was given by Mr. Larkin. Sixteen hours were devoted to laboratory pharmacy and sixteen hours to lectures, recitations and examinations. In this course, pharmacy, materia medica, pharmaceutical compounding, prescription writing and incompatibilities were studied. Fifty-two lectures, recitations and examinations were given in pharmacology by Dr. Knudson. An equal number of hours were devoted to the laboratory work which was given by Dr. Fellows and myself.

Biological Chemistry. The large chemical laboratory formerly used for inorganic chemistry has been entirely refitted as a laboratory for special investigation and research in physiological chemistry. The office and adjacent special laboratory formerly occupied by the registrar has been entirely renovated by completely repainting and calcimining. A dark room with maze entrance has been built for use in photographic and polariscopic work. Considerable equipment has been provided which is necessary for special students and for research and is also available for the class teaching. Besides the usual reagents and glassware this includes apparatus for nitrogen determination by the Kjeldahl method, an efficient apparatus for rapidly preparing distilled water, a torsion balance, an electric oven, a Du Boscq colorimeter, an ice chest for which ice is prepared by means of the refrigerating plant in the basement, a large electric incubator which was made from an ice chest, an autoclave and numerous other less expensive apparatus. This room has been most conveniently arranged for research by Professor Knudson who offered an optional course during the fall and winter in the more recent advanced methods of chemical examination of the blood and urine. Four or five of the physicians associated with the department of medicine availed themselves of this opportunity and have expressed their appreciation of the coöperation and interest shown by Dr. Knudson. The general plan of teaching biological chemistry is set forth in the announcement for 1915-1916. It is hoped that in the future, when two pre-medical years are required, students may enter the medical college prepared in organic chemistry so that more time may be devoted to physiological chemistry. In addition to the optional course above mentioned Dr. Knudson has had as a special student Mr. Erdos who has aided greatly in the detailed chemical study of the metabolism in a case of myelogenous leukemia treated by radium. Dr. Knudson and Mr. Erdos not only found a great increase in the nitrogenous metabolism—total nitrogen—ammonium nitrogen, urea nitrogen but a very extraordinary increase in the total phosphates.

The following letter from Dr. Knudson, professor of biological chemistry, explains the work in his department during the past year:

> The work of the department of Biological Chemistry consists mainly in teaching the required courses of organic and physiological chemistry, which have been grouped under the heading of Biological Chemistry.
>
> The course in organic chemistry, given during the session 1915-1916, consisted of a thorough course of laboratory instruction in the study of the preparation and properties of a few typical organic compounds of importance in medicine. The laboratory work was supplemented by lectures, recitations and conferences. The course in organic chemistry for this session has been made more thorough in that in previous years no laboratory instruction in organic chemistry had been given and the course was merely a lecture and demonstration course. During the session 1914-1915 laboratory work in organic chemistry was inaugurated but it was unsatisfactory from many standpoints in that it was considered secondary to the lecture work and was not correlated with the lectures.
>
> The course in physiological chemistry has covered mainly a study of food-stuffs, tissues, digestion, excretions, and metabolism. The work the past year has been extended from that in previous years in the addition of methods for gastric analysis and some of the more important methods of urine analysis.
>
> It is hoped that in the near future when two years of college work are required for entrance organic chemistry will also be required for entrance. In that case a brief review of the principles of organic chemistry as applied to physiological chemistry can be taken up and more time can be given to metabolism experiments and a more thorough laboratory training in the methods of urine and blood analysis which are of prime importance in clinical medicine.

LABORATORY FOR CHEMICAL RESEARCH

Besides conducting the work in the required courses in chemistry the department has offered facilities for physicians and special students to carry on any special work which may interest them. During the past year several physicians took advantage of these facilities in learning some of the methods of blood and urine analysis, especially the newer methods, which are of especial value in clinical work. Among those who worked in the laboratory were Drs. Ordway, Gorham, Graham, Fromm and Gulick. It was unfortunate that all of them could not put in the amount of time that they wished to, but the department has profited immensely by their participation in the work. It has brought the clinical side of medicine in closer touch with the experimental chemistry and we have been able to cooperate with one another.

The department has been fortunate in having as a special student, Mr. Erdos, who has willingly assisted in carrying out some of the routine work in research and other work, and has assisted in teaching methods of urine analysis to students.

The research work which has been conducted during the past year has been the study of the metabolism of a case of myelogenous leukemia treated by surface application of radium. This research has been made possible by the kind cooperation of Dr. Ordway who has conducted the clinical study of the case.

The department of Biological Chemistry is fortunate in having adequate space for its work. The large general laboratory on the south end of the building is well fitted up for student work. It has accommodations for fifty students. At present a hood is being built over the center of the last row of desks. The hood is very much needed and will do away with some of the unnecessary fumes of the laboratory. It is planned to restain the tops of the desks and to varnish the side of the desks and the shelves.

On the north side of the building the department has a large room fitted up for special work and research. Considerable time was spent in the first half of the year arranging and fixing up this laboratory. A dark room has been partitioned off at one end of the laboratory for photographic, polariscopic, and nephelometric work. Special apparatus, such as centrifuge, electric oven, Kjeldahl distilling apparatus, colorimeter, balances, etc., have been provided. It is desirable to paint the walls, ceiling and woodwork in the laboratory so as to improve the appearance and the light of the laboratory.

The office adjoining the research laboratory on the Lancaster street side of the building, formerly occupied by the registrar, has been thoroughly renovated and walls and woodwork painted. The office is being used by the department in conjunction with the Department of Medicine.

Pharmacology. The work in pharmacology has been carried on through the association of Dr. Gruber, Dr. Knudson and

Mr. Larkin. Mr. Larkin gave an introductory course in pharmacy and materia medica in which the students had the opportunity to learn the physical and chemical properties of the most important drugs and the actual chemical and physiological actions of these drugs were later studied by the students themselves in small groups and in special demonstrations by Dr. Gruber and Dr. Knudson.

Pathology. In the course in pathology a somewhat new method was adopted by Dr. Kellert. As far as possible the etiological agent was studied in detail and then the lesions and diseases caused. This plan offers certain advantages although it cannot be logically followed in all instances for the causes of many diseases are as yet unknown. The large amount of routine public health and pathological work done at the Bender Laboratory and the frequent changes in assistants have made such investigation, special teaching or development in new phases of instruction difficult. It is hoped that the conditions may be improved in the future particularly by providing more trained assistants for the routine work in the Bender Laboratory. This is particularly important in this department which is so closely related to both the so-called fundamental sciences and the practical medical sciences.

According to Dr. Kellert, assistant professor of pathology, the general method of work in the department of pathology is as follows:

> Pathology at one time occupied a relatively unimportant position in the curricula of our medical schools. The subject was formerly taught by the citation of unusual cases and the exhibition of freak specimens. With the discovery of the cellular structure of tissues, the advent of staining methods and improved histological technique came a better understanding of various morbid changes in the body. The microscopic study of inflammation, degeneration and neoplasms gradually developed into the science of pathology, which at the present day is regarded as the very foundation of all medical and surgical practice. From the viewpoint of morphology the subject is nearly complete, but much remains to be learned concerning the nature of disease processes. The causes of the erratic growth of tissues, the mechanism of cellular reactions and the etiology of many diseases are all problems for the investigator of the future and he is the student of the present.
>
> In all laboratory courses the student acquires his knowledge largely

by experiment and thus are developed his powers of observation upon which his future success will depend. He is taught not to be satisfied with mere statement of fact or observation of an effect but to seek the cause of a given change in an organ or tissue. The attempt is made to instill such interest in his subject that it will not be forgotten and left behind on the day he passes out of the college with diploma in hand.

The work in pathology and bacteriology is concentrated into the first four months of the school year. The course is begun with exercises in bacteriologic technique. The classification of micro-organisms is then studied after which the student acquaints himself with the physiological characteristics of bacteria. He then proceeds to the study of inflammation and the retrograde changes in tissues. The specific pathogenic bacteria are next investigated, first morphologically and culturally, after which the lesions they produce are studied. There is thus given a complete picture of cause and effect. Fresh tissues or preserved specimens from which microscopic sections have been made are exhibited. In his attempts at differential diagnosis, the student makes use of the freezing microtome or resorts to animal inoculation.

After some progress has been made, protocols of actual autopsies are read and discussed by the class in conference. The organs are exhibited, the changes noted, the anatomical diagnosis tabulated and the lesions explained. In the terminal weeks of the course each student is assigned a problem for investigation. This demands experimental work and usually a review of the literature bearing on the subject. The problems assigned vary according to the mental capacity and technical ability of the individual student. Thus one man may be given the problem of determining the chief varieties of bacteria in the throats of twenty normal adults, another may attempt to isolate typhoid bacilli from the urine and stools, and still another will determine the antiseptic properties of certain chemicals. Original problems are omitted because it is thought that the student will derive greater benefit by following the plan of some previous investigation and comparing results. The attempt is made to inculcate habits of systematic work, observation, recording of data and careful technique.

Medicine. The general plan of teaching in medicine is described in the following communication from Dr. Hermon C. Gordinier, professor of medicine:

The work accomplished at the Samaritan Hospital for the fourth year class in medicine started early in October, 1915, and continued until May 23, 1916. It consisted of a continuous service in the wards from 9 a. m. until 12 m. except Mondays. The class was divided into groups of five students. Three cases were assigned to each group for careful study under personal supervision. Each patient being examined by two students, the odd student having the advantage of a case all alone. Exhaustive histories were taken, painstaking physical examinations made, as well as careful clinical and microscopic examinations of blood, urine, etc.

In addition to this, practical bedside work in the wards, I have conducted each week throughout the year two medical clinics from 3 to 5 p. m. on Tuesdays and Fridays. Here the cases observed by the students in the wards were assembled and presented by them to the class. Their histories, physical examination, diagnosis and treatment were thoroughly discussed and criticised. These cases were then taken as a text for the clinical talks or lectures. We have been able to demonstrate from four to six cases at each clinic and have shown most of the common diseases, together with many of the rarer types. Special attention has been given to a discussion of their diagnosis and treatment. The lecture room is spacious and amply provided with all necessary apparatus for class work and demonstrations and we have had ample clinical material at our disposal.

No didactic lectures were given for I have felt that clinical talks with a patient as a text was the most convincing and ideal method of teaching medicine. With this in view my colleagues in this department have cooperated in a similar manner at the various hospitals in Albany and with the valuable assistance they have rendered we have been able to cover in a satisfactory manner most of the field of internal medicine.

The work of the Junior class in medicine has consisted of practical demonstrations, dispensary work and systematic didactic teaching.

I want to emphasize the excellent work accomplished in teaching the methods of physical diagnosis by Dr. Hawn and his associates. This work has been of a very practical type and will be of great value to the Juniors when they enter their Senior year. For purposes of didactic teaching in the third year the field of internal medicine was divided into several topics which were covered by the lectures of Drs. Ordway, MacFarlane, Neuman and Gordinier. It is to be hoped that in the immediate future we may be able to give more attention to clinical work in the third year. This can only be accomplished by having greater opportunities offered by the various out-patient services of general hospitals, entrée to the County hospital and the various dispensaries.

In conclusion, I would like to emphasize the need of greater opportunities for the observation and study of contagious diseases. I hope next year this may be accomplished by the conjoint use of the cases in the wards of the contagious buildings connected with the Albany City and Samaritan Hospitals.

The medical school is greatly indebted to the Governors of the Albany Hospital who have altered and equipped two small rooms adjacent to a large medical ward for use as a ward laboratory for the students while serving as clinical assistants. A case for instruments and apparatus has been provided by the Medical College for the clinical laboratory in St. Peter's Hospital for use in a similar manner.

Physical Diagnosis. The teaching in physical diagnosis has been under the general charge of Dr. C. B. Hawn who has been assisted by Drs. Conway, Corning, Douglas, Fromm, Gorham, Graham and Winne. Dr. Hawn prepared an outline of history taking and physical diagnosis which was printed at the medical school in the form of a small book convenient for use of the third year students. A similar outline in the form of a folder was prepared by Dr. Hawn and Dr. Gorham for the fourth year students. Such outlines serve as guides for the students for logical arrangement and suggestions for acquiring complete clinical data.

Owing to the large size of the third year class and the fact that certain clinical material was not freely available the work in this department was somewhat hampered during the first part of the year and also because of the severe snow storms in the middle of the winter. The South End Dispensary has now been taken over as an integral part of the Albany Hospital and as it is to be freely available for teaching purposes should largely fill this deficiency. A more complete use of the County Hospital, however, is very desirable as above indicated.

Pediatrics. Dr. H. L. K. Shaw has had charge of the work in pediatrics as in the past and the college is indebted to Dr. Vander Bogert of Schenectady who has not only come to Albany to conduct certain phases of this work but has given special clinics every three weeks in Schenectady to small groups of students.

Following is Dr. Shaw's report on the year's work in pediatrics:

> Didactic lectures to the third year class were given Tuesday morning and Wednesday afternoon, and the clinical section of the third year class met three mornings of each week. Once a month Dr. Vander Bogert had the third year class meet him in Schenectady where he conducted a clinic. Sections of the Senior class were held four mornings a week at St. Margaret's House where the men had practical training in infant feeding and preparation of food, study of infantile diseases, practical work in stomach lavage, bathing and irrigations, etc., and each section

spent a morning at the infant welfare station. Dr. Winne was able to show the senior students cases of contagious disease at the Lathrop Memorial and the Albany Hospital, and conduct clinics in children's diseases at the Child's Hospital.

Dermatology and Contagious Diseases. The work in dermatology and contagious diseases has been somewhat handicapped for the lack of clinical material. The difficulty will be largely remedied next year in diseases of the skin owing to certain changes in the teaching staff.

Mental Diseases. In mental diseases the instruction has been given as in the past by Dr. J. M. Mosher in Pavilion F in the Albany Hospital. " The present plan of instruction was adopted upon the opening of Pavilion F in 1902 and is thought to be the first instance in this country of systematized bedside teaching of mental diseases for undergraduate students."

Gastro-Enteric Diseases. The course in gastro-enteric diseases has consisted of didactic lectures, demonstrations and recitations to the third year by Dr. Doescher and to the fourth year a clinic has been given each week by Dr. Neuman, the cases having, in most instances, been previously assigned to students to study and report upon.

Clinical Pathology. The course in clinical pathology has been under the immediate charge of Dr. L. W. Gorham. Owing to the recent rapid growth of clinical pathology and its intimate relation to biological chemistry and physiology it seemed desirable to give this course in the closest possible association with these departments. Therefore, the course was given at the medical school instead of at the Bender Laboratory in the room occupied in the first half of the year by the course in histology. The coöperation of Dr. Knudson was very helpful and it is hoped in the future that the work in clinical pathology may be given in part during the last half of the second year and in part during the first half of the third year so that it will in a way serve to bridge over a gap in the so-called laboratory and clinical branches by indicating the practical application of the former. Dr. Gorham has been assisted during the year by Drs. Crain, Graham and Martin.

Following is Dr. Gorham's report of the year's work:

The course in laboratory diagnosis was given this year at the Medical College instead of at the Bender Laboratory as previously. The course was given in the afternoon from 2.30 until 5.30 p. m., occupying ninety-six hours in all during the year. This is as against fifty-six hours for the preceding year.

Doctors Crain, Graham and Martin assisted in the practical work in the laboratory. A better course was given, it is believed, than last year and the essential principles and the practical points of laboratory diagnosis were given to the students. It was possible to give the men some of the quantitative methods of urine analysis. It is hoped in the future in connection and in cooperation with Dr. Knudson to extend the number of quantitative methods given to the class in blood and urine.

During the past year we have been studying acute myelogenous leukemia and have a paper about ready for publication on that subject.

Public Health. The work in public health in the second year was most satisfactorily carried out by Dr. Smillie according to the plan indicated in the announcement for 1915-1916. The coöperation of Dr. Wadsworth of the State Laboratory, Mr. Willcomb of the City Filtration Plan and Drs. Sautter and Miller of the City Department of Health made it possible to give instruction in small groups in these respective subjects. Dr. Biggs and Dr. Williams of the State Department of Health were instrumental in affording the students (in groups) the opportunity to make a sanitary survey by communication with the local health authorities in the respective districts. Next year as it is impossible to secure the services of Dr. Smillie it is hoped that arrangements be made with the State Department of Health to teach public health in the medical college. For the latter, three half days a week from February to May, inclusive, will be required. It would seem that this plan would have many advantages and it is important that it should be brought about as soon as possible that the instructors may become thoroughly familiar with local public health work before the opening of the course.

The lectures on public health and allied subjects given in coöperation with the numerous officials of the State Departments of Education, Health, Agriculture and Labor, the City Bureau of Health and the Albany Law School in the State Education Building were well attended by the fourth year medical students. The attendance of the public was variable. On the whole, comparatively few availed themselves of this opportunity.

Surgery. Dr. A. W. Elting, professor of surgery, reports:

During the past year an effort has been made to give to the students in the third and fourth year classes as thorough and practical a course in surgery as the facilities at our disposal allow. Unfortunately, during the early part of the year, the opportunities for surgical dispensary work for the third year class were distinctly limited so that they have not received as much teaching of this character as I had planned, nor as I hope that they will receive in the future. In addition to this, Dr. Donhauser has been rather badly handicapped in the course in surgical pathology because of the necessity of conducting this course at the Medical College building instead of at the Bender Laboratory. This difficulty has, however, been corrected and next year the course in surgical pathology will be given at the Bender Laboratory and ought to be very satisfactory and successful.

An effort has been made to make the teaching in the fourth year as practical as possible, and particular emphasis has been laid upon the study of the clinical side of surgery and especial emphasis has been laid upon following the cases after operation. The clinical bedside teaching in the wards of the Albany Hospital and St. Peter's Hospital has been very satisfactorily carried out and has been well appreciated by the students. Twice a week during the year a careful presentation of clinical cases has been given at the Albany City, St. Peter's and Child's Hospitals, where the students have been required to carefully work up cases and present them to the class under the direction and criticism of the Professor of Surgery and his associates. This work has been found to be extremely satisfactory.

No attempt has been made to conduct operative surgical clinics as it is felt that they are simply a waste of the students' time. All of the students have had ample opportunty to see a very considerable amount of operative surgery under excellent conditions in the private operating room of all the hospitals. Dr. Harvie and his nephew Dr. P. L. Harvie, have also conducted extremely satisfactory surgical clinics in the Samaritan Hospital in Troy.

The suggestions for betterment of the course in surgery concern mostly the further development and organization of the dispensary teaching at the Albany Hospital, South End and St. Peter's dispensaries, where it is desired that the third year students should have the maximum experience in the management of minor surgical disorders. It is utterly impossible to satisfactorily or adequately conduct the course in surgery without ample dispensary facilities and I hope that this matter can be especially emphasized to the trustees.

I enclose reports which I have requested the different members of departments connected with the general Department of Surgery to make, and I hope that they will receive adequate consideration by the Board of Trustees.

In regard to the work in surgical technic given to the third year class, Dr. Edwin L. Draper reports:

During the first half year the entire class met once each week for a two-hour period, making a total of fifteen exercises.

One hour was devoted to a lecture-demonstration and one hour to the practical application of bandages by the students themselves.

The subjects covered in the lecture-demonstrations consisted of a resumé of the history and development of antiseptic and aseptic surgery, followed by a consideration of the preparation, sterilization and indications for use of all materials used in operative procedures and in the dressing of wounds, such as gauze, sutures and ligatures, drainage materials, etc.; a description and demonstration of various types of surgical instruments, with methods of sterilization and directions for their care; the preparation, both general and local, of patient and preparation of operator for major and minor surgical operations; post-operative care of patient both as regards general condition and the care and dressing of wounds; and the general principles of the treatment of superficial wounds.

During the second half, or rather, beginning this year the first of January, sections of the class consisting of eight or nine men each met twice each week for a two-hour period, making a total of forty such exercises. Thus each member of the class was given eight exercises in operative work upon the cadaver. This work included such operations as the suturing of wounds, tying sutures and ligatures, amputations, making and closing abdominal incisions, appendectomy, closure of intestinal perforations, intestinal anastomoses, operation for radical cure of hernia, resection of rib, etc.

New instruments were provided for this work by the school.

Orthopedics and Roentgenology. The work in this department has been conducted according to the plan indicated in the announcement for 1915-1916. Dr. John M. Berry was assisted by Dr. Howard. Dr. Berry states, " I know of no report to make except that the work was accomplished as outlined in the medical school catalogue. The courses seemed satisfactory to me and I have no new recommendations for the next year."

Genito-Urinary Surgery. The work in this department has been conducted according to the plan indicated in the announcement for 1915-1916 by Dr. James N. Vander Veer assisted by Dr. Aldrich. Dr. Vander Veer reports as follows:

The third year class has been met each lecture hour, save one, during the year, and general didactic lectures covering the major portion of genito-urinary surgery have been given.

As these lectures are didactic charts, lantern slides, and instruments utilized for demonstration have been furnished.

In the fourth year class the teaching by section aims to give individual instruction to each student.

Ophthalmology and Otology. The work in this department has been conducted according to the plan indicated in the announcement for 1915-1916. It is planned during the coming year to have the fourth year students in small sections serve as clinical assistants as is done in medicine, surgery and in certain of the special branches. This will be possible next year owing to a special provision made by Dr. Bedell during the session of 1915-1916 in anticipation of such change. Special rooms have been fitted at the South End Dispensary for this work. In reporting on the work in his department during the past year, Dr. Bedell says:

> The work in my department has been divided into two parts, senior and junior. Exercises for the senior class have been held every Monday and Friday from eleven to one. Cases shown and discussed with a systematic course of clinical lectures covering all of the common eye and ear diseases. Many of the more important operations were demonstrated.
>
> In this, Dr. C. H. Moore, has, as usual, continued to work with me.
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> The junior class has had a thorough course of lectures in eye and ear diseases every Tuesday morning from nine to ten. Several of the class have seen illustrative cases under treatment in the South End Dispensary.

Laryngology and Rhinology. The work in this department has been conducted by Dr. C. F. Theisen assisted by Dr. O'Keeffe. Next year Dr. Theisen will also be assisted by Dr. Hinman who will have charge of the third year teaching. Dr. Hinman will be assisted by Dr. Keens. The third year work will be done largely at the Dispensary of the Albany Hospital. The following is Dr. Theisen's report of the year's work:

> The work of the Nose and Throat department during the session of 1915-1916 has been very satisfactory.
>
> During the past session there were ten sections, each one having about three weeks' practical work in nose and throat during the entire term. The third year class next term will also have practical work at the Albany Hospital and at the South End Dispensary. They will also have didactic lectures.

The material at St. Peter's Hospital, Child's Hospital and the Eliot Austin Hospital will be utilized for the fourth year work.

Neurology. The work in this department has been conducted by Dr. La Salle Archambault and the general plan of instruction was as is described in the announcement for 1915-1916. Dr. Archambault has been assisted by Dr. Wm. Kirk of Troy who has given special work in the anatomy of the nervous system and by Dr. Nelson K. Fromm who has conducted the recitations. During the past year Dr. Archambault has continued his investigation of congenital anomalies of the brain.

Gynecology. The work in this department has been conducted as in the past by Dr. John A. Sampson assisted by Dr. Tiffany Lawyer. Dr. Sampson reports:

> The work this last year was as indicated in the catalogue, the difficulty being that it was impossible to furnish the men as much clinical material as I should have liked. This will be obviated in the future when we will have smaller classes to deal with.

Obstetrics. The work in obstetrics has been conducted by Dr. Paul T. Harper assisted by Dr. Holt of Schenectady and Drs. Bowers, Bruce, Egerton, Houghton and Rausch of Albany. Dr. Holt has had charge of the instruction of the second year students in preparation for their practical dispensary work. He has also assisted in the work of the third year. Dr. Harper has established an unusually high standard for the teaching of the practical work in obstetrics. It is the custom in many of even the best medical schools for the students, after a few lectures on the management of the normal labor, to accept assignments in connection with the out-patient department of lying-in hospitals and care for patients in their homes. Such a student usually receives practical instruction on one case by the student who has preceded him or by an instructor in the department. A district nurse or nurse connected with the institution may or may not visit the patient and help in the care after delivery. Such a student, indeed, acts practically as midwife. If anything abnormal presents itself and is recognized by the student or he is in doubt he may send for help and advice and a physician will be sent from the lying-in hospital. Dr. Harper, however, believes that this method of teaching obstetrics is fundamentally wrong. He believes that not only should a guild nurse attend the patient and be present to assist the student during delivery and in the after care as has been done for some years past at the Albany Medical School through the efforts of Dr. Lipes but Dr. Harper has also insisted upon the presence at each delivery of one of his assistants, a physician who should give detailed practical instruction to the student at each case and insist that complete records be kept by the student including all the details of labor and convalescence. It is Dr. Harper's belief that even a comparatively small number of cases in which such instruction is given by a physician and assistance by a specially trained nurse is of far more value than a very much larger number of obstetrical cases cared for by students in many of the best medical schools. Dr. Harper's report follows:

The work of the year was new in three respects.

(a) Text book study was begun in the second year and didactic lectures are to be completed at the end of the third year. Clinical work is to be done during the fourth year.

(b) Opportunities were offered for the observation of labor and the puerperium under immediate and skilled supervision in the public service of the Anthony N. Brady Maternity Home.

(c) Similar opportunities were presented in the Special Obstetric Department of the Albany Guild for the Care of the Sick. They were made possible by the employment of Attending Obstetricians who are associated with the department in the capacities of instructors and of whom presence at confinement and observation during the puerperium are required. The remuneration made these physicians makes possible both to the patient and the student attention that it is not reasonable to presume physicians could give unaided.

In the future the opportunities for the observation of labor and the puerperium both at the Brady Maternity Home and in the Guild should increase.

Most opportune is the recent establishment of an Obstetric Department at the South End Dispensary, since there can be offered opportunities for the observation of cases during pregnancy in numbers greater than would visit a single institution.

The supply of clinical material offered students it is believed will be adequate, unquestionably so if our aim to secure intensive instruction upon each case can be realized. In this connection there must be appreciated, however, the difficulties of bringing physician, student and patient together at times neither physician nor student selects. Closer supervision should make more such material available.

Publications of Members of the Faculty and Teaching Staff of the Albany Medical College, 1915-1916. Appendix to the Report of the Dean.

Publications

Dr. H. C. Gordinier.

"Pulsus Alternans." *American Journal of Medical Sciences,* February, 1915.

"Auricular Fibrillation, Its Recognition and Treatment." *Albany Medical Annals,* July, 1916.

"Alteration and Absence of Umbilical Reflex in the Diagnosis of Typhoid Fever." *Albany Medical Annals,* September, 1915.

Dr. Thomas Ordway.

"Occupational Injuries Due to Radium." Personal Experience, with Report of Cases. *Transactions of Association of American Physicians,* 1915. *Journal of the American Medical Association,* January 1, 1916, Vol. LXVI.

"Diseases of Occupation and Vocational Hygiene." Chapter on Cancer and Occupation, X-Ray and Radium. Edited by G. M. Kober and W. C. Hanson. P. Blakiston's Sons & Co., 1916. (With E. E. Tyzzer.)

"Radiotherapy." Article in *Reference Handbook of Medical Sciences.* Wm. Wood & Co., 1916.

"Remissions in Leukemia Produced by Radium in Cases Completely Resistant to X-Ray and Benzol Treatment." *Transactions of Association of American Physicians,* 1916.

"Address of the Dean at the Opening of the Session." *Albany Medical Annals,* November, 1915.

"The Teaching of Medicine." *Albany Medical Annals,* December, 1915.

Dr Andrew MacFarlane.

"Physician, Know Thyself." *Medical Record,* February 19, 1916.

"The Treatment of General Infections by Sera and Vaccines." *New York State Journal of Medicine,* May, 1916.

Dr. J. M. Mosher.

"The New Faculty." *Albany Medical Annals,* June, 1915.

"The New Curriculum." *Albany Medical Annals,* August, 1915.

"The New Catalogue." *Albany Medical Annals,* September, 1915.

"Public Health and the Curriculum." *Albany Medical Annals,* October, 1915.

"Thirteenth Report of Pavilion F." *Albany Medical Annals,* November, 1915.

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"Commencement, 1916." *Albany Medical Annals,* July, 1916.
"The Treatment of Mental Disease in a General Hospital." *The Modern Hospital,* November, 1915.

Dr. H. L. K. Shaw.
"A State-wide Campaign for Little Mothers' Leagues." March, 1915.
"Plans of the Division of Child Hygiene." June, 1915.
"Results of the 1915 Infant Welfare Campaign." November, 1915.
"Diarrheal Diseases." May, 1916.
"The Public Health Nurse and the Promotion of Child Hygiene." June, 1916.
"The New York State Department of Health and Infant Welfare Work." *The Woman's Medical Journal,* May, 1915.
"Your Baby—How to Keep it Well." J. B. Lyon Co., Albany, N. Y.
"Blood Coagulation in Infancy." *New York State Journal of Medicine,* September, 1915.
"Schick Reaction in Infants." *Transactions American Pediatric Society,* 1916.

Dr. H. W. Carey.
"Bacteriology for Nurses." F. A. Davis Co.
"Memorial of Elma E. Beale." *Albany Medical Annals,* December, 1915.

Dr. C. F. Graham.
"Leukemia." *Journal of the American Medical Association,* May, 1915.

Dr. C. B. Hawn.
"Diagnosis in Typhoid Fever." *Albany Medical Annals,* October, 1915.

Dr. Frank Vander Bogert.
"A Case of Infantile Scurvy." *Journal of the American Medical Association,* December, 1916.
"Some Points in the Management of Breast Feeding." *Archives of Pediatrics,* January, 1915.
"Some Remote Effects of Bad Feeding." *Albany Medical Annals,* August, 1915.
"Congenital Syphilis, Simulating Mongolism, in One of Twins." *American Journal of Diseases of Children,* January, 1916.
"Symptomatology of Congenital Intestinal Obstruction." *Archives of Pediatrics,* March, 1916.
"Some Manifestations of Colon Bacillus Infection of the Urinary Tract in Infancy." (Accepted for publication.) *Albany Medical Annals,* 1916.
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"The Eye Findings in One Hundred Patients with Pulmonary Tuberculosis." Read before the New York State Medical Society, April, 1915. *New York State Journal of Medicine,* April, 1916.

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"Colloid Degeneration of Upper Lid." Read before the American Ophthalmologic Society. Printed in *The Transactions,* Volume 14, page 313.

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"A Portable Viewing Box." *American Journal of Roentgenology,* Vol. II, April, 1915, No. 6.

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"Retarded Ossification as an Etiologic Factor in Traumatic Arthritis and Epiphysitis." *Journal of the American Medical Association,* Vol. LXVI, March 18, 1916.

"Observations on the Presence of Roentgenological Shadows Associated with Subdeltoid Bursitis; also on the Presence of Similar Shadows in other Parts of the Body." *American Journal of Orthopedic Surgery,* Vol. XIV, August, 1916, No. 8.

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Dr. John A. Sampson.

"The Radical Operation for Cervical Cancer with the Report of Fifty Cases." *New York State Journal of Medicine,* February, 1916.

Dr. Paul T. Harper.

"Contraction Ring Dystocia." *American Journal of Obstetrics and Diseases of Women and Children,* Volume 73, No. 1, 1916.

Dr. La Salle Archambault.

"Headache in Organic and Functional Diseases of the Nervous System." *Albany Medical Annals,* June, 1916.

"Address of Welcome to the Alumni Association." *Albany Medical Annals,* July, 1915.

"The Teaching of Neurology." *Albany Medical Annals,* April, 1916.

Dr. Wesley M. Baldwin.

"The Teaching of Anatomy." *Albany Medical Annals,* May 1916.

"Address to the Alumni." *Albany Medical Annals,* September, 1916.

Dr. Charles M. Gruber.

"The Teaching of Physiology." *Albany Medical Annals,* February, 1916.

Dr. Arthur Knudson.

"Chemical Study of Lipins." *Biological Chemistry Bulletin.* (In press.)

"Method of Determination of Cholesterol Esters in Blood." *Journal of Biological Chemistry.* (In press.)

Dr. Ellis Kellert.

"Progress in Pathology and Bacteriology." *Albany Medical Annals,* May, 1916.

"Bender Hygienic Laboratory Report." *Albany Medical Annals,* July, 1916.

Linsly R. Williams.

"Report of the Chairman of the Committee on Public Health." *Albany Medical Annals,* October, 1915.

"The Cocaine and Morphine Laws." *Albany Medical Annals,* January, 1916.

"Quarantine." *Albany Medical Annals,* August, 1916.

C. E. A. Winslow.

"Problems of Public Health Education." *Albany Medical Annals,* October, 1915.

Clinton P. McCord.

"Report of the Health Director of the Albany Public Schools." *Albany Medical Annals,* May, 1916.

Editorial

> He put water into his wine by measure, according as he saw that the strength of the wine would suffer it. At Cyprus he asked me why I put no water into my wine; and I said this was by order of the physicians, who told me I had a large head and a cold stomach, so that I could not get drunk. And he answered that they deceived me; for if I did not learn to put water into my wine in my youth, and wished to do so in my old age, gout and diseases of the stomach would take hold upon me, and I should never be in health; and if I drank pure wine in my old age, I should get drunk every night, and that it was too foul a thing for a brave man to get drunk.
>
> *Joinville's Chronicle of the Crusade of St. Lewis.*

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The New York Alumni Association. This active organization, which has been in existence since 1895, held a reunion dinner at Brown's Chop House in New York City on Tuesday evening, February 6, 1917.

The idea of this gathering, after a lapse of several years, presented itself to Dr. Frederic W. Loughran, President of the Association, and found itself justified in the large and enthusiastic attendance. Without any special effort it was found that some seventy alumni responded willingly and cordially, and the events of the evening were marked by great enthusiasm, which speaks well for a greater and more energetic organization in the future. It was particularly gratifying that such a representative meeting should be held characterized by warm expressions of loyalty to the college. The dinner was entirely informal, and only three addresses were made.

Dr. J. Montgomery Mosher represented the Faculty of the College, and spoke interestingly and optimistically of the outlook for the College.

Professor F. Spencer Baldwin, Manager of the New York State Insurance Fund, gave an entertaining and instructive talk on the relation of the physician to industrial insurance.

Dr. Parker Syms reviewed the general topics of the day, in lighter vein, and Dr. Frederic W. Loughran, President, as Toastmaster, scintillated with no loss of his most genial manner.

Officers for the ensuing year were elected as follows:

President	Dr. Walter H. Conley, 1891
First Vice-President	Dr. R. W. MacFarland, 1888
Second Vice-President	Dr. C. C. Sweet, 1905
Third Vice-President	Dr. Frederick Shirk, 1911
Secretary	Dr. Frederic A. Williams, 1891
Assistant Secretary	Dr. Hugh M. Cox, 1902
Treasurer	Dr. Flavius Packer, 1893

The following alumni were present:

Bowman, Dr. J. M.	1891
Bush, Dr. S. P.	1908
Bogardus, Dr. C.	1912
Cahill, Dr. J. J.	1912
Conley, Dr. Walter H.	1891
Cox, Dr. H. M.	1902
Cordes, Dr. F. W.	1895
Cotter, Dr. J. H.	1894
Deal, Dr. F. A.	1899
Dederick, Dr. A. S.	1906
Duffy, Dr. F.	1915
Dwyer, Dr. M. J.	1883
Furlong, Dr. F. C.	1914
Garten, Dr. F.	1908
Goodwin, Dr.	
Gregory, Dr. M. S.	1898
Griswold, Dr. W. C.	1897
Groff, Dr. P. A.	1914
Goetchius, Dr. H. P.	1895
Gabriels, Dr. A. T.	1907
Hays, Dr. W. E.	1905
Hendry, Dr. W. E.	1898
Holding, Dr. A. F.	1901
Jordy, Dr. G. R.	1914
Johnson, Dr. H. C.	1916
Kinloch, Dr. R. E.	1899
Keeler, Dr. P. H.	1897
Knowlton, Dr. W. N.	1891
Lamb, Dr. R. B.	1891
Loughran, Dr. F. W.	1890
MacFarland, Dr. R. F.	1888
McPillips, Dr. J. A.	1912
Murphy, Dr. N. A.	1915
Markle, Dr. F. G.	1897
Mosher, Dr. J. M.	1899
Olstein, Dr. M.	1916
O'Meara, Dr. M.	1903
Packer, Dr. F.	1893
Parshall, Dr. K. A.	1899
Pigeon, Dr. F. X.	1896
Pratt, Dr. H. Z.	1887
Reece, Dr. H. H.	1905
Richards, Dr. G.	1916
Riley, Dr. E. J.	1908
Rosecrans, Dr. W. B.	1901
Ryan, Dr. W. J.	1915
Salmon, Dr. T. W.	1899
Sanford, Dr. W.	1896
Schaible, Dr. F. G.	1905
Spaulding, Dr. W. C.	1888
Stellwagen, Dr. F. B.	1894
Sweet, Dr. C. C.	1905
Sweeney, Dr. W.	1915
Swan, Dr. H. B.	1916
Shirk, Dr. F.	1911
Ten Brink, Dr. M.	1883
Thornton, Dr. W. S.	1901
Vaughn, Dr. F. E.	1909
Van Keuren, Dr. H. C.	1916
Willard, Dr. T. H.	1887
Waldron, Dr. H. A.	1877
Waluck, Dr. J.	1914
White, Dr. J. W.	1905
Wood, Dr. H. J.	1885
Williams, Dr. F. A.	1891

Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.
ABSTRACT OF VITAL STATISTICS, JANUARY, 1917.
COMPILED BY WILLIAM F. FULLGRAFF, REGISTRAR.

Deaths.

Consumption	22
Typhoid fever	1
Scarlet fever	0
Measles	20
Whooping cough	0
Diphtheria and croup	2
Grippe	10
Diarrheal diseases	1
Pneumonia	28
Broncho-pneumonia	9
Bright's disease	14
Apoplexy	14
Cancer	12
Accidents and violence	5
Deaths under one year	18
Deaths over seventy years	47
Death rate	23.75
Death rate less non-residents	20.65

Deaths in Institutions

	Non-Resident.	Resident
Albany Hospital	13	15
Albany Hospital Camp	1	5
Home for the Aged	1	1
Home for the Friendless	0	1
Convent Sacred Heart	1	1
Public places	0	4
St. Margaret's House	0	1
Hospital for Incurables	1	1
Albany County Hospital	3	0
Homeopathic Hospital	2	7
St. Peter's Hospital	3	6
Maternity Hospital	1	24
Totals	26	66

Births	204
Still births	11

Bureau of Communicable Disease.

Cases Reported.

Typhoid fever	14
Scarlet fever	2
Diphtheria and croup	12
Chickenpox	77
Measles	108
Whooping-cough	12
Tuberculosis	54
Mumps	2
Septic sore throat	4
Total	285

Number of days quarantine for scarlet fever:
Longest....... 54 Shortest....... 30 Average....... 33 4/9

Number of days quarantine for diphtheria:
Longest....... 37 Shortest....... 16 Average....... 26 5/8

Fumigations:
Houses.................. 41 Rooms.................. 221

Milk bottles disinfected.. 196

Communicable Diseases in Relation to Schools.

	Reported			Deaths		
	D.	S.F.	M.	D.	S.F.	M.
High School	1	1	..	..	..	..
St. Ann's School	1	..	..	..	..	..
Infant's Home	..	..	90	..	..	20

Tuberculosis.

Living cases on record January 1, 1917		658
Cases reported:		
By card	46	
Dead cases by certificate	6	
		52
		710
Dead cases previously reported	16	
Dead cases not previously reported	6	
		22
Living cases on record February 1		688

Total tuberculosis death certificates filed during January, 1917..... 22

Non-resident deaths:	
Albany Hospital Camp	2
Resident deaths	20

Visits to cases of communicable disease:	
Diphtheria	2
Tuberculosis	56
	58
Physicians visited	13
Investigations	2

BENDER LABORATORY REPORT.

Diphtheria.

Initial positive	22
Initial negative	168
Release positive	23
Release negative	72
Suspicious	1
No growth	3
Total	289

Sputum for Tuberculosis.

Positive	19
Negative	92
Total	111

Widals.

Positive	7
Negative	31
Suspicious	7
Unsatisfactory	4
Total	49
Wassermann tests	198

BUREAU OF NUISANCES.

Complaints made	53
Inspections	69
Plumbing	43

Sanitary	26
Reinspections	63
Plumbing	27
Sanitary	36

HEARINGS.

Cases heard before health officer	0

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

Inspections	192
Old houses	36
New houses	156
Permits issued	52
Plumbing	45
Building	7
Plans submitted	17
Old buildings	10
New buildings	7
Houses tested	65
Blue or red	1
Peppermint	3
Water test	61
Houses examined	22
Re-examined	54
Valid	16
Without cause	6

DEAD ANIMAL REPORT.

Horses removed	26
Dogs removed	237
Cats removed	340
Total	603

BUREAU OF MARKETS AND MILK.

Public market inspections	25
Market inspections	137
Fish market inspections	17
Packing house inspections	1
Hide house inspections	6
Rendering plant inspections	1
Slaughter house inspections	1
Milk depots inspected	9
Stores inspected	74

Lactometer readings	136
Temperature readings	136
Fat tests	66
Fat tests, cream	2
Sediment tests	48
Chemical tests	66
Milk cans inspected	280
Complaints investigated	2

Condemned:

21 cans condensed milk.
11 cans sardines.
14 cans tomatoes.
5 cans pork and beans.
6 packages pancake flour.
3 packages rolled oats.
7 packages shredded wheat.

Miscellaneous.

Cards posted for communicable disease	16
Cards removed	17
Notices served on schools	238
Notices served on stores and factories	14
Postal card returns sent to doctors	25
Postal card returns received from doctors	17
Inspections and reinspections	32
Work certificates issued to children	21
Vaccinations	25
Cases assigned to health physicians	72
Calls made	131
Signs furnished to licensed plumbers	1
Garbage collected from 1st district	160 bbls.
Garbage collected from 2nd district	144 bbls.
Garbage collected from 3rd district	156 bbls.

FROM A HOSPITAL WINDOW

Hospital and College Notes

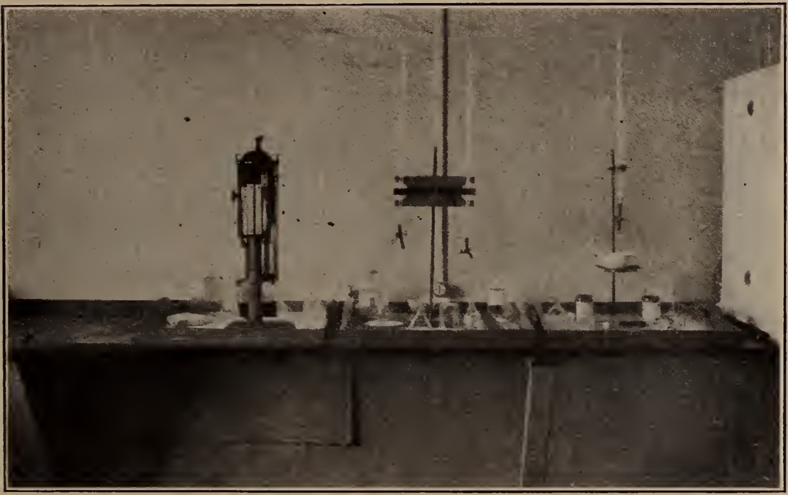
Edited by Clarence F. Graham, M. D.,

ALBANY HOSPITAL.

The February number of the ANNALS contained a short note concerning the new Clinical Laboratory of the Albany Hospital, with some description of its physical arrangement. The organization of the laboratory and the scope of the work are matters of general interest, and deserve a more complete description.

The laboratory was designed, its construction superintended, and its equipment selected by the medical service of the hospital, in the belief that the department which would make the most use of the laboratory should be responsible for it. Likewise, the direction of the department is in the hands of the medical service. This does not mean that the medical service undertakes to supervise the collection and examination of every specimen taken to the laboratory, but that the service maps out the routine of the laboratory as a measure of necessity. The representative of the medical division serves without title, without pay and without responsibility. His function is to foresee the laboratory wants of the medical staff and meet them. It has devolved upon him to formulate rules for the collection, preservation, delivery and examination of the dozen different types of specimens which form the pabulum of the laboratory; to test various ways of entering the reports in the patients' histories and to apply the most satisfactory; to procure the apparatus for the new procedures which the laboratory has undertaken, and in general to prepare the department for any reasonable demands that may be made upon it. He is in no sense responsible for the quality of the work done by the internes, and exercises no supervision over their examinations. In the Utopian future, this duty may be placed upon a paid resident physician or assistant pathologist, but at present each interne does his work according to the light that is in him, and is responsible to the visiting staff alone.

The actual working force of the laboratory is the Supervising Laboratory Nurse, who makes the contact between the laboratory and the nursing staff. This position is a new one in laboratory administration, and marks a great advance over anything so far attempted. Too often the clinical laboratory is left to its own devices; a motley collection of specimens in every kind of container is dumped chaotically into it; the internes examine when and how they will, and the reports are delivered or not as chance happens. The condition here is far otherwise. The laboratory nurse instructs the ward nurses in the collection and delivery of specimens, knowing the misconceptions to which the nurses are subject and the mistakes they are most prone to make. She takes the course in Clinical Pathology at the Medical College, and in an emergency can herself examine a specimen. She collects the reports of the internes and delivers them to the ward supervisors for entry in the histories; records the specimens sent to the Bender Laboratory and sees to it that the slips are properly filled in; checks out apparatus to the internes; makes up solutions, refills the reagent bottles, inspects the several laboratories daily, and does all the thousand and one things that a laboratory requires for smooth running.



TRAYS WITH SPECIAL OUTFITS

Efficient work has been much facilitated by attention to a few major precautions. First—that there shall be no divided responsibility. Each man who receives a piece of apparatus signs a slip or in some other way makes himself responsible for its return. The complete outfits necessary for gastric analysis, chloride determination, sugar determination, and the phenolsulphonephthalein test are made up on separate trays, and checked out from the stock room on request. In the service laboratories, the two internes of the medical and surgical divisions have each a separate section of bench identically arranged and supplied with necessary reagents and apparatus. Each man is responsible for his own place, and the waste by breakage and carelessness under this system is almost nothing. All the laboratories are locked at night to prevent entry by unauthorized persons, theft and waste. Specimen containers are given out to the wards only on application: twenty-four hour urine bottles are given out only when a slip is presented giving the determination that is desired. Only in this way can the somewhat expensive uniform bottles be kept from rapid dispersion.

LABORATORY FOR ROUTINE CLINICAL PATHOLOGY

The second precaution that makes for efficient work is that good work is made easy. Each man has his own set of bottles, filled regularly, and the place for each bottle is marked on the reagent shelf. Benedict's solution is supplied to each man in a siphon bottle as a time saving device. Each service room has its own centrifuge and microscope. Clean slides and coverslips always stand by each microscope, together with immersion oil and lens paper, and the lenses are cleaned daily. A daylight bulb gives light for each microscope. The laboratories are cleaned daily at 1 P. M., and specimens to be saved can be placed in a pan

CHEMICAL LABORATORY

marked for preservation. Separate receptacles for towels and waste prevent the littering of the floor.

The laboratory has offered the use of its facilities to the State Department of Health, and with the department's apparatus supplementing the hospital's, the equipment is unusually complete. The laboratory now houses the following apparatus: two Kjeldahl digestion racks, Kjeldahl distillation shelf, Van Slyke blood CO_2 apparatus, Van Slyke amino-acid apparatus, Haldane gas analysis apparatus, Fredericia alveolar air apparatus, one-half horsepower vacuum and pressure pump, International Equipment Company No. I centrifuge and No. II shaker, Bramhall-Deane steam sterilizer, Leitz dry sterilizer, heating stage, dark field condenser and arc light, large incubator, plate rocker, ruby lamp, printing box, torsion balance, two chemical balances sensitive to one-tenth milligram, Kirchhoff-Bunsen spectroscope with table and optical equipment, Leeds and Northrup potentiometer sensitive to one one hundred thousandth volt, Duboscq colorimeter, two Kober nephelometers, with daylight boxes, and the usual chemical apparatus, with a large reserve of glassware.

A DETAIL OF CHEMICAL LABORATORY

An assistant to Dr. Arthur Knudson, Professor of Biological Chemistry of the Medical College and consulting chemist to the hospital, gives half time to the routine chemical work of the hospital laboratories.

REPORT OF THE CLINICAL LABORATORY FOR THE MONTH ENDING JANUARY 31, 1917.

The report of the Clinical Laboratory for the month ending January 31, 1917, is as follows:

Single specimens of urine examined	603
Twenty-four hour specimens of urine examined	41
Stool specimens examined	6
Gastric contents examined	1
Quantitative sugar estimations	13
Phenolsulphonephthalein tests	12

The Chemical Laboratory has made the following examinations during the month:

Blood.

Total nitrogen	0
Non-protein nitrogen	3
Creatinine	3
Urea	4
Uric acid	2
Blood sugar	2
CO_2 combining power	1

Urine.

Uric acid	2

Milk.

Proteins	12
Lactose	12
Fats	10

Gastric Contents.

Total acidity	3
Free acidity	3
Alveolar air CO_2 tension	3
Air of ward CO_2 tension	1

It is recommended that a routine examination of the milk delivered to the hospital be made irregularly at intervals of about two weeks.

The Clinical Laboratory now superintends the delivery of all specimens intended for examination by the Bender Laboratory and the laboratory of the State Department of Health. The following specimens have been delivered to the Bender Laboratory during the month:

Cultures	78
Spinal fluids	8
Sputum	43
Tissues	121
Widals	12
Wassermanns	55

The length of time required for the return of a report from the Bender Laboratory has been greatly reduced by a follow-up system which notifies the laboratory of overdue reports, and the delivery of the reports directly to the Clinical Laboratory practically obviates the former confusion of lost reports.

The State Department of Health has accepted the invitation of the hospital to avail itself of the Clinical Laboratory facilities, and the physiological chemists of the department are now working in the Clinical Laboratory. This involves practically no extra expense to the hospital, as the state furnishes its own supplies and special apparatus, while the hospital has the benefit of expert advice and the use of expensive apparatus otherwise unobtainable.

The hospital has also established useful relations with the State Laboratory in the matter of the isolation of the pneumococcus from sputum.

Dr. F. M. Meader, Director of the Department of Communicable Diseases, is also working in the laboratory upon problems relating to typhoid carriers, and has undertaken the bacteriological examination of the stools and urine from all typhoid patients in the hospital.

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR JANUARY, 1917.—Number of new cases, 181. Classified as follows: Dispensary patients receiving home care, 6; district cases reported by health physicians, 2; charity cases reported by other physicians, 21; moderate income patients, 73; metropolitan patients, 79; old cases still under treatment, 44; total number of cases under nursing care during month, 225. Classification of diseases for the new cases: Medical, 40; surgical, 14; gynecological, 4; obstetrical under professional care, mothers 48, infants 38; eye and ear, 5; skin, 1; throat and nose, 5; dental, 0; infectious diseases in the medical list, 26; surgical list, 0. Disposition: Removed to hospitals, 3; deaths, 12; discharged cured, 115; improved, 35; unimproved, 15; number of patients still remaining under care, 45.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 3; students in attendance, 1; nurses in attendance, 3; patients carried over from last month, 2; new patients during month, 6; patients discharged, 7; visits by head obstetrician, 1; by attending obstetrician, 26; by students, 12; by nurses, 51; total number of visits for this department, 90.

Visits of Guild Nurses (all departments).—Number of visits with nursing treatment, 1,102; for professional supervision of convalescents, 334; total number of visits, 1,436; pay patients, 836; charity patients, 266;

unrecorded patients, 334; cases reported to the Guild by 2 health physicians, and 66 other physicians; graduate nurses 4, certified nurses 2, pupil nurses 5 on duty.

Dispensary Report.—Number of clinics held, 86; new patients, 108; old patients, 455; total number of patients treated during month, 563. Classification of clinics held: Surgical, 9; nose and throat, 7; eye and ear, 17; skin and genito-urinary, 8; medical, 10; prenatal, 3; lung, 7; dental, 0; nervous, 4; stomach, 5; children, 8; gynecological, 18.

To Visit Institutions in the West.—Mr. James C. Farrell left Albany on February 16th for a three months' trip through the South and West. Mr. Farrell was accompanied by his son, Anthony Farrell, and in the party were Dr. L. W. Gorham, Rev. Joseph Scully, of the Cathedral of the Immaculate Conception, Joseph W. Sweeney and Prof. A. H. Burdick. The party will have a private car for the entire trip. They will visit Cincinnati, Chicago, St. Louis, New Orleans, Salt Lake City, Los Angeles, San Francisco, Seattle, and other western cities, spending some time in each place.

At the meeting of the faculty of the Albany Medical College, of which Mr. Farrell is a trustee, held on January 14, the itinerary of the trip was planned for Dr. Gorham and Mr. Farrell to visit the leading hospitals and medical schools of the universities en route, to meet the leading physicians and surgeons in charge and to make a general survey of these institutions to aid the faculty on their return to formulate plans for the new college building in connection with the changes now being made in the Albany Medical College and the Albany Hospital.

Medical Society of the County of Albany.—The regular meeting of the Medical Society of the County of Albany was held at the Albany County Court House, February 20, 1917, at 8.30 p. m. Dr. George Blumer, Dean of the Medical Faculty, Yale University, New Haven, Conn., read a paper on "Discussion of the Deleterious Effects of Competitive Athletics."

Medical Society of the County of Schenectady.—The regular meeting of the Medical Society of the County of Schenectady was held in its rooms in the New County Building, Tuesday evening, February 13, 1917, at 8.30 p. m. Scientific program: "Digest of the Compulsory Health Insurance Law," Dr. J. J. O'Brien; "Personal Experience under the Health Insurance Law in Germany," Dr. Hugo Gutman; "Some Phases of the Arguments for and against Compulsory Health Insurance Law;" "Health Insurance from the Public Health Viewpoint," Dr. Arthur Krida.

Medical Society of the County of Monroe.—A special meeting of the Medical Society of the County of Monroe was held at Rochester,

N. Y., Tuesday, January 23, 1917, at 8.30 P. M. Dr. James F. Rooney, Albany, N. Y., spoke on "The Effect of Compulsory Health Insurance upon the Medical Profession as Evidenced by its operation in Germany, Austria and England." Dr. Henry Lyle Winter, Cornwall, N. Y., spoke on "Legislation and Medicine."

MEDICAL SOCIETY OF THE STATE OF NEW YORK.—The next annual meeting of the Medical Society of the State of New York will be held in Utica, N. Y., April 24th, 25th and 26th, 1917.

AMERICAN MEDICAL ASSOCIATION.—The annual meeting of the American Medical Association will be held in New York City, June 4-8, 1917.

THE CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA.—The Clinical Congress of Surgeons of North America will hold its next meeting in New York City during the week of October 22, 1917. The headquarters of the Congress will be at the Waldorf-Astoria Hotel.

SARATOGA SPRINGS MEDICAL SOCIETY.—The regular meeting of the Saratoga Springs Medical Society was held at the Elks Club, February 23, 1917, at 8 P. M. Scientific program: "Clinical Pathology of Gastric Carcinoma," Dr. C. R. Comstock; "Availability of the Cure at Saratoga Springs to those not afflcted with Disease," Dr. J. F. Humphrey.

NATIONAL LEPROSARIUM BILL PASSES SENATE.—The bill providing for a national hospital for lepers simultaneously introduced in the House and Senate passed the House May 15, 1916. It appropriated $250,000 for a national home for lepers, either on a site acquired by purchase or on any abandoned government reservation suitable for the purpose, the hospital to be under the regulation of the surgeon-general of the United States Public Health Service and to be for the care and treatment of any person afflicted with leprosy who presents himself voluntarily or for any who may be apprehended under the United States Quarantine Acts or for anyone consigned to the home by the proper health authorities of any state. January 25th, the bill was called up on the calendar in the Senate. As passed by the House, the bill provided an addition to the pay of any medical officers detailed for service in the leper hospital of one-half of their regular pay; in the Senate bill the additional pay was one-quarter. Senator Ransdell of Louisiana, chairman of the Senate Committee on Public Health and National Quarantine in order to expedite the passage of the bill, moved to substitute the passage of the House bill for the Senate bill and secured its passage by unanimous consent.

CHAMBER OF COMMERCE OPPOSES COMPULSORY HEALTH INSURANCE.—The New York State Chamber of Commerce has put itself on record as opposed to the Mills bill for compulsory health insurance which was introduced into the Senate January 15th. The committee held that the expenses of sickness, allowance of medical attendance should be borne by the employer and employee, in equitable proportions and the state should pay only the expense of supervision. The chamber, however, favored a creation of a commission by the legislature which should ascertain whether employees are receiving a living wage and investigate the conditions under which they live.

WELLINGTON LAW IN EFFECT.—The Wellington law which went into effect February 1st, provides that children must remain in school until they are fifteen years of age or if they wish to go to work before reaching that age, that they must be graduates of elementary schools. Under this law the State Industrial Commission supervises the issuing of permits to children by health officers. The 50,000 children to whom permits to work have been issued during the past year are not affected by this law. It affects only the children who will seek permits from now on.

ALBANY MEDICAL COLLEGE.—A course of lectures, demonstrations and practical laboratory and field work will be given during the second semester of the Albany Medical College on Monday and Wednesday afternoons at two o'clock and Saturday mornings at nine o'clock at the Bender Laboratory, Albany. This course is open to physicians and health officers and meets the requirements prescribed July 6, 1915, by the Public Health Council, providing that health officers shall complete a course of at least six weeks, including practical laboratory and field work with lectures and reading, at an educational institution, with examinations and certificates. Subjects and dates of the course are as follows: Opening of the Course and Introductory Lecture, February 3rd; Sanitary Analysis of Air, Soil, Water, Sewage, Milk and Food Stuffs; Sterilization and Disinfection; Garbage Disposal, Nuisances, Plumbing, February 5th and March 19th; Specific Bacterial Diagnosis of Disease and Detection of Carriers, March 21st and April 2nd; Preventive and Curative Measures of Practical Value in Public Health; Infection and Immunity; Vaccine and Serum Therapy, April 4th and 21st; The Exanthemata; Control of Epidemics; Vital Statistics, April 23rd and 25th; Practical Field Work, April 30th and May 30th.

THE BRITISH JOURNAL OF OPHTHALMOLOGY.—*The British Journal of Ophthalmology* comes into existence through the union of three well known periodicals, *The Reports of the Royal London Ophthalmic Hospital, The Ophthalmic Review* and *The Ophthalmoscope.* This amalgamation is of considerable importance to all ophthalmologists for the three journals have for many years been considered the important ones in British Ophthalmic Literature.

Personal.—Dr. **Charles C. Sweet** (A. M. C. '05), Petersburg, has accepted a provisional appointment for three months as chief physician at Ossining.

—Dr. **James H. York** (A. M. C. '09), has removed to 1031 State St., Schenectady.

—Dr. **Lewis J. Smith** (A. M. C. '14), is connected with the Matteawan State Hospital, Beacon, N. Y.

Married.—Dr. **James H. York** (A. M. C. '09), Schenectady, N. Y., and Miss Katherine Eayres of Pittsford, Vt., were married recently.

—Dr. **Lewis J. Smith** (A. M. C. '14), and Miss Helen A. Little of Westfield, Mass., were married on February 6, 1917.

—Dr. **William P. Sweeney** (A. M. C. '15), sailed on February 22d, on the steamship Andania, from New York for France, where he will join the Harvard unit of the base military hospital.

Died.—Dr. **Peter S. Weidman** (A. M. C. '55), of Edwardsville, Ill., died at the Jacksonville Illinois State Hospital, January 21st, aged ninety-one years.

—Dr. **Duncan S. Allen** (A. M. C. '65), Seneca, N. Y., died December 23, 1916.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

Diseases of the Nose and Throat. By **Algernon Coolidge**, A. B., M. D., Professor of Laryngology in the Harvard Medical School; Laryngologist in the Massachusetts General Hospital. Illustrated. Philadelphia and London: W. B. Saunders Company, 1915.

The well known author of this little book has presented all the important facts in the diagnosis and treatment of the diseases of the upper air tract in a form that is of particular value to students. Only the established and authenticated theories have been mentioned, and unproved statements and superfluous methods of treatment avoided.

A small book of this kind, as the author states, is not intended to take the place of a larger reference work, but is useful as it gives the different subjects in their proper perspective.

In the opinion of the reviewer, it is one of the best of the smaller books on diseases of the nose and throat. C. F. T.

Cancer of the Stomach. A Clinical Study of 921 Operatively and Pathologically Demonstrated Cases, by FRANK SMITHIES, M. D., Gastro-enterologist to Augustana Hospital, Chicago. With a Chapter on the Surgical Treatment of Gastric Cancer, by ALBERT J. OCHSNER, M. D., Professor of Clinical Surgery in the University of Illinois. Octavo of 522 pages with 106 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, $5.50 net; half morocco, $7 net.

In this volume the author presents the result of a careful study of 921 operatively and pathologically demonstrated instances of gastric cancer. The volume is composed of twelve chapters which consider in detail the different important phases of the subject. The general distribution and etiology are exhaustively presented, together with many of the latest cancer statistics. Many interesting facts are stated, but the chief emphasis in etiology appears to be laid upon gastric ulcer. The morbid anatomy is quite exhaustively treated but nothing new of importance is added. The symptomatology, physical abnormalities and examination of gastro-intestinal function are all carefully considered. Much deserved emphasis is laid upon the importance of a thorough and painstaking physical examination. All the important chemical and biological tests are described with a fairly accurate estimate as to their relative importance. The roentgen examination in gastric cancer is an excellent chapter which is profusely illustrated with characteristic radiographs. The great importance of properly made radiographs is now generally recognized and the author emphasizes its value in diagnosis. The blood in gastric cancer is of more or less interest, but aside from the anemia is of no great importance or significance. A chapter is devoted to the significance of gastric ulcer with respect to gastric cancer, which has come to be a generally recognized association. Gastric cancer in the young is a chapter of interest because of its rarity. The differential diagnosis is made the subject of a chapter and appropriate emphasis is laid upon the conditions which may be mistaken for gastric cancer. Dr. Ochsner has contributed an excellent chapter on the surgical treatment of gastric cancer, in which the essential features of operative management are outlined and discussed. The volume closes with a chapter on the non-surgical treatment, which is of importance as so many cases have to be considered from this standpoint.

The volume contains 522 pages of subject matter, including an excellent index. The illustrations, 106 in number, are well chosen and splendidly executed, and add materially to the value of the work. Devoted to a subject which has received so much attention for so long a time but little that is new could be expected, but the chief value of this work is that it presents a most excellent epitome of the subject, illustrated by and based largely upon the author's own personal experiences, which makes it much more valuable than many of the monographs which have been devoted to this subject and which represent but little more than a compilation. For physicians and surgeons this work has especial interest and value and it can be cordially recommended to the profession.

A. W. E.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, etc., by leading members of the Medical Profession throughout the World. Edited by Henry W. Cattell, A. M., M. D. Philadelphia. Volume IV. Twenty-fifth series, 1915. J. B. Lippincott Company, Philadelphia and London.

This volume completes the twenty-fifth year of the International Clinics and the editors may well feel justly proud of the one hundred volumes, showing over a thousand different contributors and taking up three times the shelf space of Dr. Eliot's Harvard classics. Dr. Cattell contributes an interesting article, sketching the history of the publication during the last quarter of a century.

Prof. William Osler has written a short sketch for this anniversary number entitled "The coming of age of internal medicine in America," really a historical outline of medical education in this country and the great European influences affecting its development.

"Auto-intoxication" by Dr. James J. Walsh, M. D., is a most readable contribution written in his most charming style. Every employed woman, especially school teachers would be the better for perusing the article. His idea is that faulty habits of under-feeding are responsible for many of the cases diagnosed by the title of his communication.

Admirers of Dr. Geo. W. Crile will enjoy a lengthy article on the work of this great surgeon at the Lakeside Hospital, Cleveland.

H. D. C.

Gynecology. By William P. Graves, A. B., M. D., F. A. C. S., Professor of Gynecology at Harvard Medical School; Surgeon-in-Chief to the Free Hospital for Women, Brookline; Consulting Physician to the Boston Lying-In Hospital. Octavo; 770 pages with 303 half-tone and pen drawings by the author, and 122 microscopic drawings by Margaret Concree and Ruth Heustis with 66 of the illustrations in colors. Philadelphia and London: W. B. Saunders Company, 1916. Price, $7 net.

This large work covers in a thorough and comprehensive manner the subject of gynecology.

The book is designed to meet the requirements of both a text-book and a reference work on diseases of women. The author has apparently been successful in meeting these requirements, and has divided his work into three distinct parts:

Part I as stated in the preface, deals with the physiology of the pelvic organs and with the relationship of gynecology to the general organism. All the important points in this connection are arranged in accordance with the latest advances in this work, and should prove of value to the medical student, the general practitioner, and the gynecologist.

Part II is arranged for the medical student, and consists of a presentation and description of the many diseases which are essentially gynecologic, and with which the student should become familiar during his course in medical school.

Part III is concerned in the consideration of the technic of gynecologic surgery, and is of value and special interest to the gynecologist. Only the more important operations are given attention, and the illustrations which are numerous are of great value to one studying the operative procedures.

The book is well arranged, has excellent illustrations, and is complete. It is to be highly recommended as a text-book and reference work on diseases of women. T. L.

PATHOLOGY AND BACTERIOLOGY.

Edited by Ellis Kellert, M. D.

The Application of the Typhoidin Test in a Group of Nurses and Physicians.

F. P. Gay and A. R. Lamb. *The Journal of Laboratory and Clinical Medicine, Vol.* 2, *No.* 4, *page* 217.

Gay and Force previously described a skin reaction for typhoid fever. It consisted in the application of a killed, concentrated glycerine broth culture of bacillus typhosus to the abraded surface of the arm. When positive, a large areola appeared around the abraded surface after twenty-four hours. The authors find that seventy-five per cent of individuals recovered from typhoid gave a positive reaction, two cases having had typhoid twenty-two years previous. Seventy-five to forty per cent of those vaccinated against typhoid also reacted positively. Fourteen per cent of presumably normal individuals gave a positive reaction. With the idea that certain of these normals might be carriers further examination was made in two cases, but typhoid bacilli could not be isolated from the urine or stools. In these two cases the Widal reaction was negative. The authors concluded that the absence of a positive typhoidin reaction is an indication for revaccination.

Studies of the Tissue Reactions to various Products of the Tubercle Bacillus.

P. F. Morse and Ethel Stott. *The Journal of Laboratory and Clinical Medicine, Vol. II, No.* 3, *page* 159.

The object of the investigation was to study the tissue reactions following the injection of the waxy capsular material of tubercle bacilli. A yellow wax-like substance was extracted from tubercle bacilli grown on glycerine bouillon. Rats and rabbits were injected subcutaneously, intraperitoneally and intravenously with the ether extract of the bacilli, but no characteristic lesions were produced.

The wax was injected in the same manner as the extract. About the subcutaneous injections there were found lumpy masses of avascular epithelioid granulation tissue containing giant cells and having centres that were purulent or solid, but never caseous.

Two weeks after peritoneal inoculation, numerous small white spots like tubercles were found and consisted of epithelioid whirls without blood vessels. The wax mixed with olive oil introduced into a rabbit's lung produced after four weeks typical avascular epithelioid whirls without caseation and surrounded by fibrous tissue. Giant cells were numerous, some of which contained wax. None of the animals were cachectic.

The authors conclude that the tubercle bacillus produces its characteristic lesion because of the waxy substance which acts as a peculiar type of foreign body. KIERNAN.

A Study of some Diagnostic Reactions for Malignant Tumors.

A. F. Coca. *Journal of Cancer Research, Vol. II, No.* 1, *page* 61, *January,* 1917.

The work was carried on under the auspices of the Huntington Fund for Cancer Research.

Earlier work showed that the specific immunity existing against the inoculation of homogenic transplantable tumors was due to the influence of cytotoxic antibodies which, however, had never been demonstrated. The first test investigated was the Freund-Kaminer reaction in which isolated cells of carcinoma are dissolved by the serum of non-cancerous individuals, whereas this effect does not take place with the sera of cancer patients. Coca found that the cytolytic action of normal serum depended upon uncontrollable factors and the test therefore had no practical value.

Experiments with the complement-fixation test of von Dungern were carried out, but no results of diagnostic significance obtained. It is thought that the positive results previously obtained were due to accident and in part to summation effect. E. K.

NEW YORK STATE MEDICAL LIBRARY.

Edited by Miss Frances K. Ray.

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NEW CURRENT PERIODICALS

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Endocrinology; the bulletin of the Association for the study of internal secretions.
Rhode Island medical journal; *successor to:* Providence medical journal.

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MEDICAL ANNALS

Original Communications

A DISCUSSION OF THE DELETERIOUS EFFECTS OF COMPETITIVE ATHLETICS.

Read at the Meeting of the Medical Society of the County of Albany February 20, 1917.

BY GEORGE BLUMER, M. D.,
New Haven, Ct.

INTRODUCTION.

From time to time it seems necessary to remind the public and to call the attention of even the medical profession to the fact emphasized by Clement Dukes "that the virtue of games is for the well-being of players and not for the entertainment of spectators." This is a point of view often overlooked in these days when almost every high school in the land, not to mention the colleges, has its athletic teams and its training system. There has been a tendency in recent years to allow athletics to degenerate into athleticism, which may be defined as intemperance in genuine physical exercise. While no one is probably better acquainted with the beneficial effects of properly regulated exercise than the medical profession, no one on the other hand is more apt to see the ill effects of unrestricted competitive athletics. As a result there have appeared from time to time in medical literature reports from physicians pointing out the evil effects of athleticism from the physical point of view. It is a regrettable fact that many of these reports have been based upon faulty methods of observation and inadequate data, and this, together with the fact that new methods of physical examination are from time to time discovered and that improvements on the old methods are constantly being made, makes it worth while to reconsider the question periodically, and to attempt to reach valid conclusions as to the extent to which athletic sports are harmful, as to the means by which abuses may be regulated, and as to the needs in the way of new methods that must be developed to fill the gaps in our knowledge of the subject. It must not be forgotten that while the average trainer of athletic teams has usually only one end in view, namely the winning of games, the medical profession in its relation to athletics has a duty both to the State and to the individual.

A discussion of the harmful effects of athletics may approach the subject from several angles. Perhaps the simplest and clearest method is to correlate the evidence which has been brought forward by different observers as indicating harmful effects, to review critically the observations and the methods which were used in obtaining them, and to draw conclusions as to the validity or falsity of the different claims. The published information can be assembled either from the point of view of the different sports, or from the point of view of the effect of various sports upon the different organs of the body. The latter method is perhaps the simpler, inasmuch as the effects of different sports on the circulation, on the kidneys, on the nervous system and on the general health are very similar, and the facts noted can be taken up systematically and later analyzed.

Athletics and the Circulatory System

The most extensive literature on the pathological effects of athletics refers to the changes which may result in the circulation. Leaving aside observations on temporary changes in the blood pressure, one finds in the literature a great many references to "heart strain," and "athlete's heart." In a general way one may summarize the pathological effects which are claimed to result under four headings:

1. Reports of rupture of a valve leaflet during violent exertion.

2. Reports of acute dilatation of the heart following unusually strenuous physical exercise.

3. Reports of marked and more or less permanent enlargement of the heart in athletes.

4. Reports of heart disease occurring during the later years of life in individuals who have formerly been devotees of athletics.

Considering the effects of various athletic sports in relation to these various types of heart strain or disability, it may be stated first that non-competitive long distance walking, such as was undertaken by the celebrated pedestrian Weston, has not been shown to have any deleterious effect upon the circulation, though the opportunities for observation have been limited. The careful studies of Weston that were made by Austin Flint, Jr., in New York, and years later by Mahomed and B. W. Richardson in London, failed to show any deleterious effect on the circulatory organs. On the other hand Baldes, Heichelheim, and Metzger in their study of the contestants in a competitive twenty-mile walk claimed to have observed a decided decrease in the arterial tension associated with definite temporary dilatation of the heart in a considerable proportion of the contestants. The combination of forced marching with the carrying of heavy loads such as occurs in infantrymen during a hard campaign is an example of a still more strenuous form of walking, and has been shown to result at times in symptoms which were interpreted as those of acute dilatation of the heart, at times in the so-called irritable heart, and at times in permanent strain of the organ with enlargement and even definite changes in the valves, the latter condition being sometimes described as "soldier's heart."

The ill results that have been observed in runners especially after long distance races, more particularly when these have been indulged in by growing boys, constitute in themselves quite a formidable indictment of unrestricted athletics. Burn-Murdock, as a result of circulars sent to the masters and medical officers of British public schools received a considerable number of reports indicating that long distance races among young boys, unless very carefully supervised not infrequently resulted in serious and permanent damage to the heart, and had in a few cases even resulted in death. The ill effects noted are in a general way described as cardiac overstrain and in many instances no very accurate statements as to the physical signs accompanying this condition are made. Clement Dukes cites cases where young boys indulged in long distance racing which resulted in some instances in persistent vomiting, coma, acute dilatation of the heart, and even death, which latter he regarded as due to poisoning from the toxins of fatigue. In a discussion of Dukes' communication stress was laid upon the importance of minor infections such as colds, in predisposing to heart strain, and emphasis was also placed upon the fact that in many instances such strains occurred in individuals who had entered into strenuous competitive events without proper training. Reports on college students relating instances of cardiac damage as the result of overstrenuous athletics are far from infrequent. Whitlocke states that acute dilatation of the heart is not uncommon and that it is evidenced by palpitation, breathlessness, giddiness, inability to sustain effort, cough, the development of enlargement of the heart to percussion, and the occurrence of a definite heart murmur along the margin of the sternum. Collier, with his large experience among college students, concurs with Whitlocke that dilatation of the right side of the heart is often seen as a temporary manifestation in athletes. Middleton reports a series of cardiac accidents, eight in number, occurring in one season among athletes in the University of Wisconsin, most of these taking the form of acute cardiac dilatation, (determined by percussion) in some instances associated with a painful enlargement of the liver due to acute congestion of that organ. Aside from acute dilatation of the heart as a result of sudden and great strain in runners, it is stated by a good many observers, Bardeen for example, that those strong enough to participate in the more strenuous forms of running develop a more or less permanent enlargement of the heart which may predispose to a subsequent acute dilatation. It is quite generally stated that in such cases the individual, especially if he subsequently adopts a sedentary career, is handicapped by the enlarged organ which is generally assumed to be predisposed to degenerative changes and to render him more liable than usual to cardiac disease in later life.

The effect of bicycle riding upon the circulation was more widely discussed twenty years ago when the bicycle fad was at its height than it has been in recent years. At that time Herschell pointed out that cyclists either when riding alone or in company showed a tendency to overexert themselves. Even solitary riders frequently indulged in century runs or similar achievements covering a course of some particular length irrespective of their physical condition. As a result Herschell claims that he observed some cases of simple enlargement of the heart, some cases of acute dilatation which in one instance was fatal, occasional functional derangements of the heart in the form of palpitation, shortness of breath, heart irregularity or even symptoms of angina pectoris, and in a few instances actual development of the signs of valvular disease. It must be stated in connection with these observations that they were made in many instances not upon trained athletes, but upon the average individual who indulged in over-strenuous bicycle riding at the period above mentioned. These observations were confirmed by Huchard in France and Stengel in the United States. About the same time Eschele in an examination of a limited number of trained bicycle riders was unable to detect any change in the heart after a ride of forty-six kilometers (28.58 miles) accomplished in from 1½ to 1¾ hours. One of the riders in Eschele's series even had a compensated valvular lesion of the heart.

Rowing is perhaps par excellence the sport against which charges of producing cardiac disease have been made. The evidence obtainable in recent years is found in the work of Lee, of Lehrnbechter, and of Middleton. In all reports the number of oarsmen who were studied was limited, and in all instances the individuals were trained athletes under adequate supervision. Neither in the individuals studied by Lehrnbechter, who used the ordinary methods of percussion, nor in the case of the individuals studied by Lee, who used accurate x-ray observations, could any enlargement of the heart be detected. On the other hand, Middleton's observations of Wisconsin crew men, apparently based on x-ray methods, showed that dilatation of the heart occurred in a number of instances either during or immediately following the training period.

The evidence that hypertrophy of the heart may result in individuals trained over long periods for various sports such as basket ball, baseball, football, running and rowing is to be found in the articles of Middleton and others and is based upon different methods by varying observers. The work on the lower animals done by Kulbs and Grober leads us to expect such a hypertrophy but it must be noted that not all observers are agreed as to its occurrence in man, nor as to the degree of enlargement likely to occur.

The record of the observations as to the effect of athletics on the heart is open to two criticisms. In the first place the methods that were employed in reaching some of the conclusions are decidedly open to objection, and in the second place it has not always been clearly demonstrated that those individuals who developed symptoms of cardiac disease had normal hearts before indulging in the exercise which produced the ill effects. In the matter of enlargement of the heart either from dilatation or from hypertrophy of the heart muscle, it must be pointed out that the older observers depended upon percussion to a large extent. In recent years the adoption of the x-ray in medical diagnosis has resulted in the introduction of several methods by means of which the size of the heart can be very much more accurately determined during life than was ever possible before. (x-Ray plate, orthodiagraph, fluoroscopy, teleroentgenography). It is only fair to state, however, that even these more modern methods are open to criticism unless they are used by experts and unless certain sources of fallacy are taken into account. An x-ray picture of the chest taken in the ordinary way gives a distorted image of the heart on account of the fact that the rays strike the chest obliquely. The accuracy of the picture is further complicated by the fact that the heart varies in size during systole and diastole and it also varies according to the position of the diaphragm. It has been demonstrated by the careful work of Williamson, Holmes and others that making the exposure of the chest with the x-ray at a stated distance, approximately six feet from the chest, eliminates most of these defects. The method known as orthodiagraphy, in which by an ingenious device the heart is mapped out by the aid of a fluorescent screen, while much more accurate than ordinary methods of percussion, also has certain limitations, and is only of value when used by experts. It is clear, however, that the older reports in which slight degrees of enlargement of the heart were recorded as the result of percussion are absolutely valueless, and that even reports based on x-ray pictures taken in the ordinary manner have much less value than was formerly supposed. They are not, however, entirely without value because the error is known and can be allowed for. It is very important to bear in mind that the proportion of the observations that has been made by the more accurate methods is comparatively small. In spite of these inaccuracies, it is nevertheless perfectly clear that as the result of athletics very definite cardiac changes may take place. There are other observations besides those on the side of the heart which must be taken into account, and which can not be explained on any other basis than the presence of some cardiac abnormality. The symptoms presented by many of the victims of overexercise are distinctly more than the symptoms of exhaustion. They point distinctly to the circulatory apparatus, and in addition it is to be noted that definite heart murmurs and even an enlarged and tender congested liver may occur.

The question as to whether the individuals who suffer from heart disturbances as a result of athletic contests and in whom permanent ill effects persist, had normal hearts before entering on their athletic career, is one much more difficult to answer. It is a question indeed whether it is possible to answer it at all with our present knowledge. A perusal of the literature of the cardiac ill effects of athletics makes it clear that those who are most likely to suffer from them are school boys, college men who have perhaps overindulged in athletics during their schoolboy days, and former athletes or other untrained persons who have attempted strenuous athletic feats without proper preparatory training. It is necessary to point out that even in those institutions where the contestants in competitive athletics are most carefully supervised, the decision as to the circulatory capacity of the individual is still based almost entirely upon what may be called anatomical rather than physiological criteria. If the heart is not enlarged and the sounds are normal it is taken for granted that the organ is not diseased. It can not be denied, I think, that we have not yet worked out satisfactory tests for the functional capacity of the heart. There have been numerous atempts to formulate such tests and these have been more or less satisfactory. (Graüpner, Barringer.) In addition to this it must be stated that it is certainly not infrequent for a heart damaged by some infectious disease to show no sign of this on ordinary physical examination, and yet at the first severe strain the weakness immediately becomes evident.

Athletics and the Kidneys

That strenuous exercise produces some effect upon the kidneys has long been known. As long ago as 1878 Leube showed that soldiers, especially after long marches during the summer months, showed albumin in the urine. Between 11 and 12 per cent. of the individuals examined by him showed this albuminuria, which Leube stated was not accompanied by the presence of blood or casts in the urine, and which disappeared after a few hours' rest. Similar observations on soldiers have been made since, and it has been stated by Brunton that the experience of the German army has been that such individuals are less resistant and less able to stand hard work, especially in the tropics than those not reacting to exercise in this way. In 1894, McFarlane called attention to similar phenomena in football players. He found that of twenty players whose urine was examined immediately after the game, all showed marked albuminuria, and it was accompanied by the presence of a few casts and in several instances of blood. Since these earlier observations numerous reports have shown that this phenomenon is not restricted to any particular type of exercise. Collier states that 51 per cent. of 156 men in training showed albuminuria after strenuous exercise, particularly oarsmen and long distance runners. Johannes Müller showed that the same was true of bicycle riders and Baldes, Heichelheim, and Metzger showed that competitive long distance walking had the same effect. The outstanding feature of the phenomenon in all cases was the rapid disappearance of all evidences of renal disease within a few hours after the cessation of the exercise. The phenomenon is now a well recognized one and is commonly spoken of in literature as the albuminuria of exercise. The mechanism of its production is still a matter of conjecture. Whether it is associated with the increase in the blood pressure or other circulatory changes accompanying certain stages of exercise, or with the excretion of the toxins of fatigue through the kidneys is still a matter of pure conjecture. The important question of course is whether the frequent repetition of experiences of this sort such as must occur in athletes during a period of training is detrimental to the health of the individual. Opinions have been advanced to the effect that there is at any rate considerable likelihood that such a process will lead to permanent changes in the kidneys which, however, may not develop until many years after the individual retires from athletic contests. This matter will be discussed further in connection with the late effects of athletics.

Athletics and the Nervous System

As regards the effects of athletics on the nervous system, there is little evidence that permanent damage to the nervous system is likely to result aside from traumatic injuries which are not here considered. After strenuous exercise certain changes in the reflexes may be observed, and in individuals who are overtrained nervousness and even pronounced insomnia may result. There is, however, practically no evidence of any pronounced and serious permanent harm to the nervous system. It is a question whether the effects of athletics on scholarship should be discussed under this heading. The only serious attempt with which I am acquainted to estimate this effect is that made by Dr. D'Arcy Power in 1913. According to this observer there seems to be a considerable amount of substantial evidence to the effect that those men engaged in the more strenuous varieties of competitive athletics are unfavorably influenced so far as their mental work is concerned. Whether their mental lassitude is the result of mere physical overtire or of mere lack of interest in their studies as compared with their athletics, or whether overstrenuous athletics produces definite changes in the central nervous system which are incompatible with mental concentration is open to question. It is, of course, well known that muscular fatigue has a distinct effect on brain activity. Dr. Power's paper is based upon answers to a questionnaire sent out to professors in various colleges and these answers are based upon general impressions rather than on scientifically conducted experiments.

ATHLETICS AND HEALTH IN LATER LIFE.

One of the most important questions with regard to athletics is that of its ultimate effects on the individuals who take part. From time to time physicians have stated that they have been consulted by individuals, formerly athletic, who showed definite evidence that they did not compare favorably in their physical equipment with individuals from the same same social strata, who had not taken part in competitive sports. Thus Harlow Brooks states that his experience in examining applicants to a national guard regiment largely composed of ex-college men, has led him to the conclusion that former athletic stars are below the health standards of average college men both as to their physical possibilities and their resistance against disease. He states that the defects that he has observed chiefly are lesions or disturbances of the heart, adiposity, joint disease and tuberculosis. Dr. Brooks expresses the opinion that the physical degeneration of athletic specialists is much more rapid in after life than is the case in those whom he terms "untrained athletes," i. e., those who have exercised during youth for pleasure or for benefit alone without indulging in competitive athletics. Other observers could be cited who present a point of view essentially similar to this. In addition to such general observations there have been a number of statistical articles analyzing the mortality of oarsmen, runners and other athletes as contrasted with that of picked men who had not previously taken part in competitive athletics but who were comparable to the athletic group. Dr. Anderson's figures covering Yale athletes tend to show that there is not a greater death rate among athletes than among non-athletes, that heart disease among athletes appears to be on the increase, but that this does not appear to be more true of the athletic group than it is of the general population. Among the older figures those of Morgan and Meylen dealing with oarsmen fail to show any increase in mortality from diseases of the heart or kidneys among this group of athletes. The report of Dr. Stokes, formerly surgeon-general of the United States Navy, on the other hand, in which he compares the records of 622 athletic with those of 580 non-athletic midshipmen, lead him to believe that there is an abnormal number of deaths among the athletes from arteriosclerosis, valvular disease of the heart, hypertrophy and dilatation of the heart, gastric disturbances, obesity, and tuberculosis. These figures have so impressed him that he advocates doing away with endurance contests at the Naval Academy and the adoption of the Swedish system of physical training, which indeed has already been put into effect.

It seems clear, therefore, that there is a decided difference of opinion as to the ultimate effects of indulgence in strenuous athletics, on the susceptibility of the individual to certain diseases, and his likelihood to die from them prematurely. On the one hand there are those who believe and who present figures which apparently show that athletic excesses are paid for in later life and particularly by the development of the so-called degenerative diseases, arteriosclerosis, degenerative heart disease, and chronic Bright's disease. Other evidence, which is equally convincing, tends to show that this is not the case. There is no question that great caution must be observed in the interpretation of such figures. It is pretty well understood that the so-called degenerative diseases are not dependent upon any single cause, but are probably caused by a very considerable number of interacting factors. There are certain aspects of athleticism which must not be lost sight of in this connection. During the period of training the athlete is under considerable restraint and is subjected in many instances to a most unscientific dietary. No institution has yet, so far as can be discovered from the literature, placed its training table in the charge of dietetic experts. The dietary of athletic teams is usually decided by rule of thumb, based on tradition, by the trainer. The diet is generally one unusually rich in protein. The studies of Dr. Nichols of Boston clearly show that scientific knowledge of dietetics is non-existent among trainers. After the period of training, which in spite of its dietary fallacies involves considerable self-restraint, the athlete is very apt to react and indulge in excesses of various kinds, including excesses in baccho et venere. It is obvious that in any consideration of degenerative diseases occurring in the after life of former athletes, questions such as the drinking and smoking habits, and no less the eating habits, of the individual between training periods, and between the cessation of athletics and the time of death can not be ignored. It is a notorious fact that as a result of excesses resulting from temptations that are particularly prone to assail the athlete after the breaking of training, actual disease is not infrequently acquired. In several articles mention is made of the fact that syphilis, a notorious cause of degenerative disease, is not uncommon among ex-athletes. It must be clear therefore that it is exceedingly difficult if not indeed impossible in a given group of cases where the figures apparently show a relationship between athletics and the development of degenerative disease later in life to decide whether such disease is due to athletics or to one or more of the factors above mentioned connected with the life habits of the individual.

General Discussion.

The observations quoted in the body of this paper must, I think, make it clear to the unprejudiced observer that there are possibilities of harm in athletics and particularly in competitive athletics, and that this main fact is not by any means refuted by differences of opinion among various observers as to the validity of certain methods and conclusions. It is also clear that the possibilities for harm of the kind we have discussed are not inherent in the games themselves and that damage has most often occurred in the case of immature individuals and improperly trained individuals, those whose ambition outstrips their strength. The remedies are clearly indicated. Athletics should be as carefully supervised as scholarly pursuits. As has been pointed out by Jergersen daily medical supervision of participants in major sports is a necessity, and no man should be permitted to indulge in any sport without medical advice. The exercise should be fitted to the man and not the man to the exercise. Certain information now lacking is needed. As Bartsch has suggested we need a sort of sport scale whereby the risks attached to the various forms of athletic contest can be gauged with reasonable accuracy. Such a scale could well be prepared by the physical directors of college athletics, who are in the best position to furnish the data. We need most urgently from the medical side to develop accurate methods of determining cardiac function. We need most of all, so far as the colleges are concerned, a much expanded system of student medical supervision, much greater cooperation between trainers and medical experts, restriction of student control in athletics, the services of scientific dietitians in connection with our training tables, and the education of our alumni to a saner viewpoint as regards athletics and its aims. In our high schools we need these same conditions even more urgently than we need them in the colleges, for in the high schools we are dealing with students who are less resistant to injury, and in these institutions the necessary safeguards have not yet reached the stage of development which they have reached in the better colleges. I cannot in conclusion refrain from condemning the present tendencies in athletics whereby the development of the few in competitive athletics is carried out at the expense of the many who, in the words of Dr. Stokes, "Stagnate on the side lines." Physical exercise in the form best suited to the individual student should be just as compulsory in schools and colleges as stated periods of study. We should still heed the oft-quoted remarks of Cotton Mather, "Let this be remembered, moderate abstinence and convenient exercise, and some guard against injurious changes in the weather, with a holy and easy mind, will go as far in carrying us with undecayed garments through the wildness to the promised and pleasant land which we are bound unto as all the prescriptions which all the physicians under Heaven have ever yet obliged us."

FEEBLE-MINDEDNESS: TECHNICAL AND LEGAL.

By WILLIAM J. WANSBORO, M. D.,
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Member of the New York State Board of Examiners of Feeble-Minded, Criminals, and other Defectives.

The publicity given the subject of feeble-mindedness has stimulated study in this direction to such an extent that eight States have enacted laws creating boards or commissions to examine this group of mental defectives with the purpose in view of ultimately eliminating propagation of this species. Impetus is given to the movement by independent workers; and by allied organizations which come in frequent contact with such defectives in our courts, in our penal and in our charitable institutions. In fact the economic side is one which the legislature finds to be no mean problem, involving as it does a burden of taxation, if all requests are met, which to say the least would be oppressive.

The study of feeble-mindedness, offers the opportunity to determine questions vital to the individual and to society, and is now in its infancy. It presents legal aspects as well as medical, but in all probability the near future will develop the fact that the profession of medicine must accomplish the task of creating the line which is yet to be drawn between responsibility and irresponsibility.

Intense interest has been created by the application of the Mendelian laws to the human family. Mendel, an Austrian monk, devoted to horticulture, discovered in plant propagation certain laws which are necessarily invariable. He found if tall and dwarf peas were crossed, that the first generation were all tall. This latter product yielded three tall and one dwarf. Further cultivation showed that the dwarfs produced all dwarfs; and the three tall peas of this group on continued cultivation yielded plants one-third of which always produced tall plants; the remaining two-thirds continued to yield three talls to one dwarf. The same phenomena were observed when peas which had a green pod were crossed with one having a yellow pod; and when round peas were crossed with wrinkled. Hence we have the famous ratio of three to one.

As a result of these experiments we have designated terms, as "unit character," "dominant" and "recessive," familiarly employed as well in the analysis of human traits. Thus, tallness is a unit character; it is dominant in the first generation; and the character dwarfness is recessive not showing here but reappearing in the second generation.

Mendel published his observations about fifty years ago, but it was not until about 1900 that even an analogy was suspected to exist between the laws governing the inherited characteristics of the vegetable and the animal kingdoms. At this latter time the discovery was made of the apparent relationship existing in these laws as applied to the physical and mental attributes of different generations of the same family. In fact the laws in many instances, especially as applying to physical characteristics, were unquestionably established as being legitimately applicable to both plant and animal life. This scientific knowledge is utilized to a great extent in cattle breeding, with very satisfactory results—results which confirm absolutely that we are dealing with more than a similitude.

As applied to intelligence, or partial lack of it as found in varying degrees of feeble-mindedness, a great difficulty confronting us is the uncertainty as to whether feeble-mindedness is a unit character. It is generally accepted, but not finally proved, that toxic conditions cause feeble-mindedness. The possibility exists that these extraneous influences accentuate rather than act as the causative factors.

The term "feeble-mindedness" is used at times in two senses. Generically it includes the group of idiots, imbeciles and morons; specifically it is synonymous with the word "moron." This conflict entails ambiguity, especially where we find most of the auditors have little or no intimate knowledge of the subject.

The prevalent impression is that lately there has been a great increase in numbers among these defectives. Since Binet and Simon developed a series of intelligence tests, first used in testing the mentality of the school children in Paris, it was discovered that there are more morons or feeble-minded than hitherto had been recognized. It is variously estimated that New York State with its population of 10,000,000 has need of institutions capable of housing 30,000. A commission appointed to investigate the subject estimates that there are 250,000 feeble-minded in our State. If these tests were universally applied it might be shown, using the tests as a basis, that the percentage instead of being two and a half was nearer ten.

The movement to care for these unfortunates is gaining momentum and yearly we see the legislature besieged for appropriations that are tremendous when totaled. Much of the hysteria could be eliminated if laws were enacted which fully protected the rights of the individual. It is a well known fact that commitments to institutions require in most instances little more than the certificate of one physician. However, in 1914, a law was passed (Chap. 361, Section 461) much stronger than any heretofore existing. It does not supersede laws already found on the statute books, and reads as follows:

> It shall be the duty of a judge of a court of record, on application of a parent, guardian, friend or relative, or of any poor law official, or of any probation or parole officer, or of any superintendent or principal of schools to set a date for a hearing for the determination of the mental status of any alleged feeble-minded person. Due notice shall be given to parties at interest as to the hearing, the date thereof, and full opportunity shall be given for a presentation of evidence concerning the mental status of the alleged feeble-minded person. When it shall appear to the satisfaction of the court that the individual named in the application is feeble-minded and that it is for the best interests of the individual and of the community that he be committed to a public institution for the feeble-minded, the judge may commit such feeble-minded person to such institution, using such form of commitment as shall be prescribed by the state board of charities, and such person shall be detained therein until duly discharged by direction of the board of managers thereof.
>
> Every application for commitment shall be accompanied by the certificate of two medical practitioners, certifying that the person to whom the application relates has been examined by each of them as to his mental capacity and that in their opinion the person is feeble-minded.

A careful perusal of this law will show that the safeguards protecting the rights of the individual are not as strong as those found in the insanity laws. According to the latter, application must be made to a Supreme or County Court Judge for the appointment of a commission (medical) to examine the alleged insane person. In the law pertaining to the alleged feeble-minded person such application must be accompanied by a certificate signed by two physicians. It so happens that each is entitled to a hearing, but provision is made that the alleged insane person may have a jury trial. Almost without exception the alleged insane person has relatives of sufficient means to guarantee justice even were the law less stringent. With the alleged feeble-minded person, often without friends and always without funds to secure counsel, in the event of error the danger of loss of liberty is enhanced.

Before making any recommendations to change the commitment laws it may not be out of place to ask, "What constitutes Feeble-mindedness?" Excluding idiots and imbeciles whose mental condition is evident, and using the word feeble-minded in the specific sense, a feeble-minded person is, "One who is capable of earning his living under favorable circumstances, but is incapable from mental defects existing from birth or from an early age (*a*) of competing on equal terms with his normal fellows, or (*b*) of managing himself and his affairs with ordinary prudence." This definition is by the Royal College of Physicians of England, and is accepted as standard or authoritative. It can readily be seen how it happens, with this definition as a working basis, that the increase in the number of feeble-minded is constant. Furthermore, knowing as we do that most of the work done in this field is carried on by an extremely high class of women, and admitting as a medical problem that this subject has been practically ignored, it becomes at once apparent that the element of personal equation enters materially in determining whether the individual under investigation is "capable of managing himself and his affairs with ordinary prudence."

As far as concerns the idiots and imbecile it is affirmatively settled that they are mental defectives from birth or shortly after. Their mentality is so far below par that as workers they could not as a rule prove self-supporting and are entitled to live as public charges.

Although the foregoing definition as to what constitutes feeble-mindedness is plain and workable in the case of the adult, given a chance to show his worth as affecting his relationship to society, when applied to the child it is usually supplemented with intelligence tests and family history. A child measuring by the Binét-Simon test two or more years below his actual age is adjudged feeble-minded. The family history is often unsatisfactory as offering conclusive evidence that the progenitors were hereditary defectives. Environment is undoubtedly a factor which often decides a man's value. That which is condoned in one age or one place becomes a pronounced symptom of feeble-mindedness in another; and the symptoms are identical with every human frailty. Hearsay evidence is the main reliance in judgment formation when the family history antedates two generations. It is unnecessary to discuss its authenticity or the part played by disease and training in shaping the family destiny. Heredity is the predominating and most likely the controlling influence in determining an individual's position in the community—a fact of common knowledge and widely known before eugenics assumed the pretense of a science. It will take time equivalent to the production of five more generations, with active and systematic research, before human breeding will approach approximately the nature of a science. Its present indefiniteness possibly accounts for the failure of the great majority actively engaged in this field to marry and procreate.

It is unanimously averred that there is no numerical increase among idiots and imbeciles out of proportion to the natural increase in population. This acknowledgment is in itself sufficient food for thought. These lower divisions were from time immemorial universally recognized as incompetents incapable of being other than a burden to their friends or society.

Mental tests for intelligence combined with the general formula as to what constitutes feeble-mindedness opened a comparatively wide field for investigations of individuals, their families, and their ancestors. The result is absolutely negative because the data compiled is insufficient to more than indicate possibilities; but one positive conclusion is evident, and that is the appreciable and recognizable augmentation of the morons or feeble minded. Whether those measuring ten years or more are to be considered as a local liability or a national asset is a problem as yet awaiting solution. Assuming that they are a menace, this highest grade division necessarily requires segregation. But the general application of the tests has been so limited that we may question the assumption.

The difficulty is that too much enthusiasm has been created such as we always find associated with new problems. As a general proposition it is unfair and unjust to both the State and the individual to deprive the latter of his liberty when he is intelligent enough to prove self-supporting. Making him a dependent on a grand scale increases taxation to a point where the ultimate taxpayer, the rentpayer, sometimes becomes as a consequence a partial object of charity. Poverty is usually ascribed to sickness and death if we listen to the insurance companies. Prohibitionists argue as strongly as to alcoholic indulgence. Reformers attribute it to gambling and disease incident to the social evil. But our charity workers monopolize the field by including all as incidental to feeble-mindedness. They favor segregation as the means to prevent procreation; and in our institutions today and awaiting commitment thereto, are many who if deprived of this power to procreate would cease to be a burden to the State.

That some effort should be made to distinguish between those who are technically from those who are legally feeble-minded is evident from this abstract of a court proceedings involving Habeas Corpus. The inmate, cited to appear, took the stand and underwent an examination by his lawyer: the Supreme Court Judge asked some questions and while the incarcerated individual was still on the stand he was discharged. Witnesses from the institution were not called, though present, which was surprising to the interested parties. No claim is made that institutional training develops or retards the growth of intelligence. Here we have a paradox; either this American-born citizen was originally deprived of his liberty through error, or the judge was very lax to put it mildly. Similar cases are never contested beyond this point, due to the fact that it is not worth while from the institutional viewpoint as they have such a large waiting list. And from the viewpoint of the inmate, invariably poverty stricken, counsel is unattainable and the cost of further proceedings is prohibitive. It must be remembered that many who are awaiting incarceration in our institutions measure higher in intelligence than immigrants admitted daily to Ellis Island.

As a concrete example exhibiting methods used to arrive at a conclusion as to the mental status of the individual the field worker in a borderline case called in some of her friends and jointly they decided that it would be for the best interests of the party under consideration to be put in an institution. On our affirmation that it was necessary to have a physician's signature attached, we were informed that this was the easiest part of the program as physicians know so little of the subject. This illustration exemplifies the necessity of more stringent legal proceedings to guarantee the rights of the individual. In the extreme northern part of the State six children were begotten through incest, and the popular local opinion was that the woman was a victim of environment. Two reputable physicians denied with vigor that she was weakminded. No action of any kind ever resulted. Hypothetically considered by experts it was unanimously agreed that the pair responsible for the affair were feeble-minded. Such cases as these should have a jury settle the question of the mental status of the parties involved. It might be added that both parties to this sex perversion were financially able to procure counsel.

Attached to a few courts in this country are trained experts who measure by standard tests the mental capacity of offenders or violators of the law. This applies particularly to Chicago. Other cities are agitating the creation of similar activities, and there can be no doubt that eventually results will be attained which will more than offset the cost. It is commendable also in that it will broaden the field, will bring a more virile body of observers on the scene and intensify study among classes. We regret that the tests have not been more universally applied; if the measure of school children, advanced students, factory workers, artisans, etc., were known we could more approximately determine the relative value of such tests as indicating the future worth of the subject, and certify with some degree of exactness where responsibility begins. Thus will be eliminated much of the sentimentalism associated with criminal cases, and the punishment will fit not only the crime but the criminal. The idea prevails among workers in this field that because feeble-mindedness is an incident of crime no responsibility exists is fallacious. To carry the theory to finality it can logically be proved that every criminal or delinquent is a limited defective and necessarily irresponsible. The extinction by segregation or sterilization of all such humans evincing animal instincts will mean a race or nation impossible to conjure.

Whether this aim is Utopian is immaterial. But the question presents itself and is bigger than one of finance, how best to preserve the rights of the individual and at the same time conserve the strength of the nation. We are not advocating segregation nor sterilization for every technical case of feeble-mindedness. With as yet the value of mental tests an unknown quantity except as they enable us to recognize greater numbers of what in former times were considered dullards, now called morons or feeble-minded, familiarly seen in the school room of the past and present, and with their place in the community unascertained, it behooves the legislature to proceed with caution.

It is true that a big movement will shortly be inaugurated making provision for institutional care of such high-grade defectives, regarded by so-called experts as a menace to society greater in proportion as they approach normal mentality. This latter opinion is based on the admitted fact that many of this class are malefactors, but in what proportion to the whole is simply a matter of conjecture. We know that a former secretary of the State Board of Charities testified there were 250,000 feeble-minded in New York State. It is given out unofficially that sixty per cent. of the prison population are feeble-minded, although we are aware that these figures are altogether speculative, and assuming that they are correct, the conclusion deduced is that less than ten per cent. of the whole are undesirable. Again it must be remembered that the feeble-minded are less capable of resisting suggestion or are more susceptible to influence than the normal man. Possibly, and in our opinion it is probably true that the lapses are due to this weakness, coupled with a lack of proper environment, rather than to an inherent tendency to crime.

It is generally accepted that criminality is not an hereditary defect. If so, and ninety per cent. of the feeble-minded are law abiding it would seem plausible to conclude that among the offenders were many victims of environment. This class being as a rule capable of self-support, useful in performing certain necessary functions in the body politic, with our indefinite knowledge of their number or place, they should not be condemned as a whole. Through no fault of their own they were born, and are entitled to a place in the sun until proven a menace. Individually they should not be deprived of their liberty until subject to the strictest proceedings the law can invoke. It is unthinkable that error should arise in even one case. We are not hereby advocating sterilization, and we do not propose at this time to offer argument why in selected cases it has superior merit to segregation.

Under the old insanity laws much confusion existed before a differentiation was effected between the so-called medical and legal insanities. Eventually the present laws pertaining thereto superseded those already enacted and the danger of jeojardizing the liberty of the interested party was eliminated or minimized.

Already there is talk of commissions to investigate the problem of the proper disposition of the feeble-minded, and we hereby recommend as contributing to make its solution less difficult, and possibly obviating the necessity of the creation of the commission, the following:

(1st) Revoke all existing laws pertaining to the commitment of the feeble-minded.

(2nd) Enact a law requiring in high-grade cases (morons or feeble-minded), easily intelligent enough to prove self-supporting, that application be made to a County or Supreme Court Judge for appointment of a medical commission to conduct such examination; that the alleged feeble-minded person, at the hearing given, shall be represented by counsel, the latter to be appointed by the court. Medical and legal expenses should be paid by the county in which the proceedings are held.

(3rd) Require in the case of the low-grade defective, on proper application, the certificate of one physician.

Such changes will prove no panacea; they will instill common sense and justice in every proceeding involving the rights of the individual and the State; and will absolutely differentiate between technical and legal defectives. The whole will be a big step forward.

Clinical and Pathological Notes

Report of a Case of Lipoma of the Intestine. By Ellis Kellert, M. D.

(From the Bender Hygienic Laboratory)

Among the more unusual neoplasms of the intestine are the lipomata. These tumors may be encountered accidentally during post-mortem examination but more frequently are seen in cases developing intestinal obstruction.

In 1904, Ward reported a case in which a lipoma was passed per anum after a long period of constipation, gastric disturbance and abdominal pain. There is appended to the report a bibliography by Rooney bearing on intestinal lipomata, together with a brief summary of thirty-six cases previously reported. Of these cases, eighteen occurred in the small intestine, seven in the large intestine, one in the oesophagus, one in the stomach and the remainder unknown. In nine of the above cases the lipomata were expelled spontaneously, and in nine others, the tumors were found at autopsy. Sixteen occurred in males, ten in females; the sex of the other cases is not stated. The chief symptoms in a majority of these cases were abdominal pains and constipation, or those of intestinal obstruction.

Dewis in 1906 collected forty-four cases and tabulated them as follows: duodenum, 6; jejunum, 4; ileum, 7; caecum and colon, 5; sigmoid, 5; rectum, 6; small intestine, 2; intestinal, 1; unknown, 6.

The case here reported was a patient of Dr. Grant C. Madill of Ogdensburg, N. Y., who performed the operation and to whom I am indebted for the following clinical history:

Mr. J. C. was admitted to the Ogdensburg City Hospital November 3, 1914. Patient, 46 years old; good family history; never had any serious illness; no history of venereal disease. Has always been a healthy hard-working man. About six months previous to admission, suffered from cramp-like pains in the abdomen. His distress most marked in the epigastric region. Bowels sluggish, but relieved by mild laxatives. Patient lost about 20 pounds in weight during six months previous to operation. Urine normal. Tumor found on physical examination in the right side of the abdomen. Otherwise physical examination negative. Resection of caecum, ascending colon and portion of ileum with lateral anastomosis of ileum with transverse colon, November 4, 1914. Patient made an uninterrupted recovery and was discharged November 21st in good condition.

Pathological description. (Bender Laboratory No. S-14-1815.) The specimen consists of a caecum with a portion of ileum and ascending colon attached. The specimen measures 14 x 10 x 4 cm. and has been

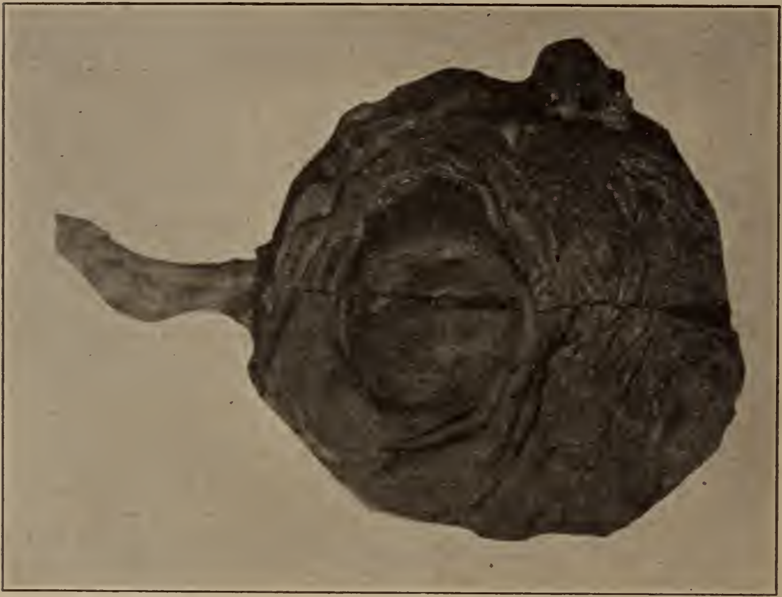

FIG. 1. Photograph of caecum showing tumor mass.

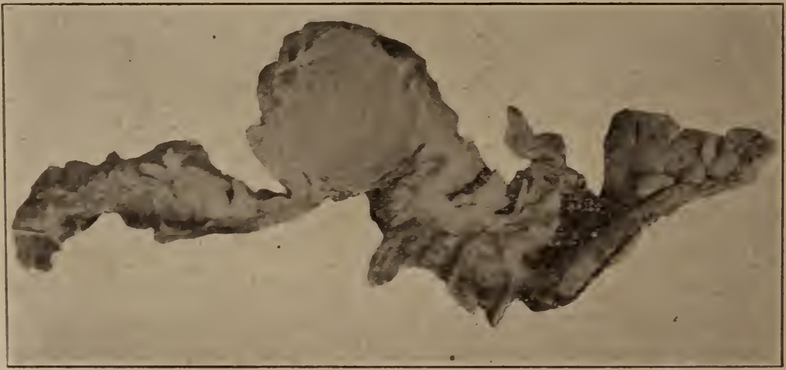

FIG. 2. Cross section of caecum showing submucous lipoma.

opened. The serosa is greatly roughened and injected. Within the wall of the caecum 3.8 cm. above the base of the appendix is a firm spherical mass 3 cm. in diameter. The overlying mucosa is greenish-red in color and presents a necrotic appearance. The mucosa surrounding the nodule is thickened, deeply injected and covered by an excessive amount of mucus.

On section the mass is seen to consist of bright yellow, lobulated fat-like tissue with sharply defined margins. It appears to have pushed the mucosa forward and produced marked thinning of the musculature, the tumor extending almost to the serosa. The appendix is 5 cm. in length and of small calibre.

Microscopic. The mucosa over the internal surface of the fatty mass is absent and replaced by a narrow band of granulation tissue 1 mm. in thickness which is markedly infiltrated with polynuclear neutrophiles, eosinophiles and lymphocytes; a few areas of fat cells are also present. The adjoining mucous membrane is also greatly infiltrated with eosinophiles. The surface is covered with a purulent exudate. The fat cells of the tumor are characteristic in appearance. There is an increased amount of fibrous tissue present and areas of lymphocytic infiltration.

Since 1906 there have been reported nineteen cases of intestinal lipomata distributed as follows: colon, 7; caecum, 4; small intestine, 8. In practically all of these cases the tumor was found at operation for intestinal obstruction. Intussusception was the condition usually present and occurred in the large and small intestine. The history invariably obtained is that of chronic constipation associated with vague abdominal pains or frequent attacks of severe pain, and finally symptoms of intestinal obstruction. The invagination often becomes very extensive before total obstruction ensues.

The above case is of interest because the clinical history and even the specimen strongly suggested malignant disease. The thickened walls of the caecum, the tumor mass with a necrotic surface resembled carcinoma and the true nature of the growth was not realized till a section was made.

Occasionally there are received in the laboratory, surgical specimens consisting of portions of the small or large intestine showing marked chronic inflammation, greatly thickened walls and a necrotic area of mucosa, the cause of which is not quite evident. It may be that in these cases a lipoma or some other form of benign tumor existed and had sloughed.

Panophthalmitis following Childbirth. By E. A. Stapleton, M. D., *Albany, N. Y.*

On June 12th, 1916, I saw in consultation with Dr. Lilienthal, a Mrs. Philmino V., Italian, aged twenty-one years, married. Twelve days previous, the patient had been delivered by a midwife. The child lived two days and then died of pneumonia. (?) Five days after the birth of the child, the patient's right eye became red and lacrimated, also very painful, and she said it grew worse until she was unable to use it.

Past History: No illnesses, except scarlet fever when nine years of age.

Examination of the right eye showed the eye-lid greatly swollen and eye very prominent. I was unable to examine the fundus because of a corneal haziness. I made a diagnosis of panophthalmitis, following an infected embolus from the uterus, secondary to pregnancy, and on June 15th, enucleated the right eye. Patient's temperature at the time of the enucleation was 101°, which subsided, and in the course of ten days was normal. Her legs were very edematous up to the knees for some time after the operation, especially noticeable when in a standing position, and this also disappeared after a couple of months.

White blood count, made June 19th, showed a slight increase —13,000. Urinary examination made on different occasions, negative. Blood culture yielded saprophytic organisms. The report from the Bender Laboratory on the eye was as follows:

"Detached retina, chronic scleritis, acute retinitis, acute and chronic choroiditis. Smears from eye show many pus cells, streptococci, debris. Cultures yield Staphylococcus pyogenes aureus and Staphylococcus pyogenes albus."

A culture taken from the discharge from the uterus showed pure streptococci.

This case is of interest, in view of the fact that there was panophthalmitis, secondary to an embolus set loose from the uterus, apparently passing through all vessels until it reached the small terminal vessels in the eye, involving no other organs.

Editorial

> In the spring of this year there fell a very great sickness of the smallpox amongst the Indians, so as they died most miserably of it; for a sorer disease cannot come amongst them and they dread it more than the plague itself; for usually, those of them which have this disease, have them in abundance, and for want of bedding and linen, and other necessaries, fall into a lamentable condition; for, as they lie on their hard mats, the pock breaking and running one into another, their skin cleaving by reason thereof to the mats they lie on, when they twin them, much of their skin flays off at once, and they will be all on a gore of blood, most sad and grievous to behold; and then, being very sore, what with cold and other distempers, they die like rotten sheep.
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> *Chronicles of the Pilgrim Fathers.*

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School for Backward Children

The problem of the instruction of backward children has been met in Albany by the organization of a special class, known as the Albany Ungraded School, in which about seventy of these special class children are taught. The problem confronting the community in regard to these children has been described by the Board of Education in the following circular:

"In any typical school system, about two per cent. of the children will, according to our best standards of measurement, be found to be feeble-minded. Idiotic children are seldom found in school, although after the opening of special classes the most frequent petitioners are parents who beg to enter idiotic or low-grade imbecile children that have hitherto been kept at home. These cases are naturally the ones that lead parents to grasp at some agent of help, since the condition here strikes even the parent as unusual, whereas the higher grades of imbecility and moronity may be fully appreciated only by a trained or experienced observer.

"Ranking above these feeble-minded children comes a group roughly designated as 'backward,' and which for practical school purposes includes the borderline cases (until such are definitely diagnosed as feeble-minded); the so-called backward-delinquents, excepting those who are feeble-minded; the psychopathic children, usually found in the delinquent group; and the mentally sound but slow children, including those who are below par physically, those who are struggling with a new language, and those to whom the methods and curriculum are poorly adapted. This backward squad constitute from 10 per cent. to 50 per cent. of the school population, perhaps being about 30 per cent. in the average city.

"Above this group ranks the great mass of average, normal school-children, constituting about forty per cent. to seventy per cent. of the membership of the system.

"At the top of the scale rank the four per cent. of children that compose the group of unusually able or "gifted" pupils.

"Expert examination of school-children shows about two per cent. are of such mental constitution that they can never profit by the work of the regular grades. These children, scattered through the regular classes, are either neglected or punished instead of being studied. They bring to us a part of the problem of truancy, incorrigibility and inability to learn or 'get along,' and are a tremendous drain upon the energies of the regular grade teacher. This type of child cannot be managed like other children, and he therefore requires special care and treatment under conditions suited to his abilities. A somewhat larger number of pupils, classed as backward, would profit greatly by having special class opportunities. Not only are the regular classes thus relieved from the bad example and drag exerted by these backward and feeble-minded children, but by the school's acceptance of its duty many of these children will be saved from a life of crime, trouble, and failure, and will be made happy and useful to the extent of their powers.

"The educational authorities of many cities are alive to the great need of the proper segregation and training of these cases, not only for their own welfare but for that of the normal pupils and of society at large. The training of such children is a specialty in education based upon a special psychology plus expert classification and study from a medico-psychological standpoint. To be able successfully to conduct a class of such children, with the least waste of time and energy, the teacher must have special aptitude and training. Approximately sixteen per cent. of children in American cities are "repeaters" (pupils who spend more than one year in any one grade); and they cost $27,000,000 a year more to be passed along through the first eight grades of school as a result. Special classes will bring about much saving in dollars and cents in the case of many of these backward children. But there will be another saving that will result from such registration and study of the feeble-minded, borderline and psychopathic cases, in the increased protection to the community from the problem of juvenile delinquency and even grave crime."

Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, FEBRUARY, 1917.

COMPILED BY WILLIAM F. FULLGRAFF, REGISTRAR.

Deaths.

Consumption	15
Typhoid fever	0
Scarlet fever	0
Measles	4
Whooping cough	0
Diphtheria and croup	1
Grippe	9
Diarrheal diseases	0
Pneumonia	25
Broncho-pneumonia	8
Bright's disease	14
Apoplexy	10
Cancer	10
Accidents and violence	5
Deaths under one year	33
Deaths over 70 years	26
Death rate	22.10
Death rate less non-residents	19.15

Deaths in Institutions.

	Non-res.	Res.
Childs' Hospital	0	1
Federation of Labor Camp	1	0
Home of Friendless	1	0
Homeopathic Hospital	4	10
St. Peter's Hospital	3	5
Home for the Aged	2	2
Albany Hospital	10	18
Albany Hospital Camp	0	5
Albany County Hospital	1	1
Sacred Heart Convent	0	1
House of Good Shepherd	0	1
Hospital for Incurables	1	2
Maternity Hospital	1	10
Public Places	0	2
Totals	24	58
Births	179	
Still Births	9	

BUREAU OF COMMUNICABLE DISEASE.

Cases Reported During February, 1917.

Typhoid fever	12
Scarlet fever	17
Diphtheria and croup	13
Chickenpox	44
Measles	13
Whooping-cough	2
Tuberculosis	42
Mumps	3
Septic sore throat	1
Dysentery-bacillary	2
Puerperal septicaemia	1
Trachoma	1
Anterior Poliomyelitis	1
Total	152

Number of days quarantine for scarlet fever:

Longest...... 30 Shortest...... 30 Average...... 30

Number of days quarantine for diphtheria:

Longest...... 31 Shortest...... 31 Average...... 31

Fumigations:

Houses. . ... 26 Rooms.................. 127

Milk bottles disinfected.. 70

Communicable Disease in Relation to Schools.

		Reported	
	D.	S.F.	M.
Public School No. 1		3	..
Public School No. 7		1	..
Public School No. 12		1	..
Public School No. 24		2	..
Infant's Home	9		..
High School		1	..
N. Y. S. Normal College		1	..

TUBERCULOSIS.

Nurses' Report.

Living cases on record February 1, 1917		688
Cases reported:		
By card	39	
Dead cases by certificate	3	42
Total		730
Dead cases previously reported	12	
Dead cases not previously reported	3	
Removed	3	18
Living cases on record March 1, 1917		712
Total tuberculosis death certificates filed during Feb., 1917		15
Non-resident deaths:		
Albany Hospital Camp	2	
Resident deaths		13

Visits to Cases of Communicable Disease.

Tuberculosis	45
Poliomyelitis	2
Total	47
Physicians visited	13
Investigations	7

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive	13
Initial negative	173
Release positive	23
Release negative	103
No growth	2
Total	314

Test of Sputum for Tuberculosis.

Positive	20
Negative	60
Total	80

Widal Tests.

Positive	16
Negative	13
Suspicious	10
Unsatisfactory	2
Total	41
Wassermann tests	156
Milk analyses	48

BUREAU OF NUISANCES.

Inspections		57
Plumbing	33	
Sanitary	24	
Reinspections		47
Plumbing	12	
Sanitary	35	

HEARINGS.

Cases heard before health officer	7
Class of cases:	
Plumbing	4
Filthy premises	2
Filthy lots	1
Disposition of cases:	
Abated	5
Ordered for reinspection	2

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

Inspections		162
Old houses	41	
New houses	121	
Permits issued		26
Plumbing	22	
Building	4	
Plans submitted		12
Old buildings	10	
New buildings	2	

Houses tested		23
Blue or red	2	
Peppermint	2	
Water test	19	
Houses examined		28
Re-examined		54
Valid	15	
Without cause	13	
Violations		2

Dead Animal Report.

Horses removed	23
Dogs removed	144
Cats removed	173
Cows removed	1
Total	341

BUREAU OF MARKETS AND MILK.

Public market inspections	22
Market inspections	113
Fish market inspections	11
Packing house inspections	3
Rendering plant inspections	1
Hide house inspections	4
Milk depots inspected	7
Milk cans inspected	96
Lactometer readings	142
Temperature readings	142
Fat tests	75
Fat tests, cream	2
Sediment tests	42
Bacterial counts	34
Complaints investigated	1

MISCELLANEOUS.

Cards posted for communicable disease	30
Cards removed	4
Notices served on schools	152
Notices served on stores and factories	64
Postal card returns sent to doctors	30
Postal card returns received from doctors	4
Inspections and reinspections	38

Work certificates issued to children	8
Vaccinations	8
Cases assigned to health physicians	57
Calls made	112
Signs furnished to licensed plumbers	2

Garbage collected from 1st district	151 bbls.
Garbage collected from 2nd district	131 bbls.
Garbage collected from 3rd district	102 bbls.

Medical News

The Albany Guild for the Care of the Sick.—Report for the Month of February, 1917.—Number of new cases during month, 192. Classified as follows: Dispensary patients receiving home care, 1; district cases reported by health physicians, 2; charity cases reported by other physicians, 28; moderate income patients, 84; metropolitan patients, 77; old cases still under treatment, 45; total number of cases under nursing care during month, 237. Classification of diseases for the new cases: Medical, 52; surgical, 11; gynecological, 8; obstetrical under professional care, mothers, 49; infants, 48; eye and ear, 1; skin, 1; throat and nose, 0; dental, 2; infectious diseases in the medical list, 20; infectious diseases in the surgical list. Disposition: Removed to hospitals, 6; deaths, 5; discharged cured, 110; discharged improved, 37; discharged unimproved, 30; number of patients still remaining under care, 49.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 2; number of students in attendance, 3; number of nurses in attendance, 4; number of patients carried over from last month, 1; number of new patients during month, 7; number of patients discharged, 4; number of visits by head obstetrician, 0; number of visits by the attending obstetrician, 29; number of visits by students, 9; number of visits by nurses, 55; total number of visits for this department, 93.

Visits of Nurses (all departments).—Number of visits with nursing treatment, 1072; for professional supervision of convalescents, 380; total number of visits, 1452—p. p., 837; ch., 235; umec., 380; cases reported to the Guild by 1 health physician and 65 other physicians, graduate nurses, 4 pupil nurses, 5 on duty; certified nurses, 2.

Dispensary Report.—Number of clinics held, 84; number of new patients, 114; number of old patients, 433; total number of patients treated during month, 547. Classification of clinics held. Surgical, 11; nose and throat, 9; eye and ear, 17; skin and G. U., 6; medical, 13; prenatal, 3; lung, 5; dental, 0; nervous, 3; stomach, 4; children, 7; gynecological, 6.

Medical Society of the County of Schenectady.—At a meeting held on March 13, 1917, Dr. W. E. Lawhead, surgeon of the local naval recruiting station delivered an address on the Naval Medical Reserve Corps which the government is organizing as a measure of preparedness.

American Medico-Psychological Association.—The Seventy-third Annual Meeting of this Association will be held at the Hotel Astor, New York City, May 29, 30, 31, and June 1, 1917, under the presidency of Dr. Charles G. Wagner, superintendent of the New York State Hospital at Binghamton.

The Anti-Tuberculosis Campaign.—The Westchester County Board of Supervisors has just appropriated $650,000 additional to the $300,000 made available last year for the new county general hospital. Approximately 500 beds will be provided, 200 of which will be for tuberculosis patients.

The hospital will be one of a group of county institutions that are being erected upon a 400-acre tract of land two miles northwest of White Plains and within a short distance of the Harlem and Putnam Divisions of the New York Central Lines. Tentative plans have been drawn and the hospital will be constructed under the direction of a building commission composed of three leading citizens of the county appointed by the Board of Supervisors. The hospital will come under the general supervision of V. Everit Macy, County Commissioner of Charities and Correction, who is widely known for his philanthropies and for his leadership in civic and social reforms.

The Montgomery County Board of Supervisors has recently voted to increase the capacity of the tuberculosis hospital from 25 to 50 beds, and a bond issue of $20,000 was passed unanimously at a special session called to consider the enlarging of the institution. Plans have been prepared and construction will be started as soon as the weather permits.

The proposed site for the Steuben County Hospital has been approved, after a public hearing, by the State and local health authorities. The property is a quarter of a mile north of the village of Bath on a State highway and close to the Bath-Hammondsport Railroad. The municipal water supply of Bath will be extended to the hospital. The sum of $30,000 was appropriated by referendum of the voters at the general election in November, 1915.

Sites for the Rensselaer, Warren, and Livingston County tuberculosis hospitals have been selected recently. These are the three counties in which referendums were had and carried at the general election last November. The site for the Rensselaer County Institution is on the outskirts of Troy within easy walking distance of one of the local trolley lines. The sum of $150,000 has been appropriated for the hospital.

The site for the Warren County Hospital, for which $50,000 has been made available, is between Glens Falls and Lake George, and readily accessible by State highway, interurban trolley, and the D. & H. Railroad.

The Livingston County Hospital, for which $35,000 has been appropriated, will be built on a beautiful site on the high banks of the Genesee River, just outside of Mount Morris, and within a mile from each of the depots of the three railroads traversing the county.

Thrty-three of the fifty-seven counties in the State, exclusive of those within the City of New York, have tuberculosis hospitals in operation or authorized by referendum or by affirmative action of public boards. These thirty-three counties contain 81.3 per cent. of the population of the State of New York, exclusive of New York City. The remaining twenty-four counties have no provision for tuberculosis patients authorized or available. There are twenty-seven hospitals in operation and twelve others authorized in the thirty-three counties. Already 1,799 beds are available, and 1,279 additional beds are authorized, or a total of 3,078 beds, as contrasted with 154 beds available in two hospitals when the State campaign against tuberculosis began in October, 1907.

New Tuberculosis Journal.—The publication of a monthly technical journal, devoted exclusively to tuberculosis, the only one of its kind in English, was announced today by the National Association for the Study and Prevention of Tuberculosis. The editorial policy of the new journal will be determined by a staff of seven experts appointed by the board of directors of the association, consisting of Dr. Edward R. Baldwin, Saranac Lake, editor-in-chief; Dr. Lawrason Brown, Saranac Lake; Dr. H. R. M. Landis, Philadelphia; Dr. Paul Lewis, Philadelphia; Dr. M. J. Rosenau, Boston; Dr. Henry Sewall, Denver; Dr. B. S. Veeder, St. Louis.

Dr. Allen K. Krause, of Baltimore, the managing editor, is widely known as a worker in the research field of tuberculosis. He recently left Saranac Lake to take charge of the new division of tuberculosis in Johns Hopkins' University.

The *American Review of Tuberculosis,* as the new publication is called, is the first technical journal on tuberculosis in this country. The intention of the National Association is to make it compare favorably with similar foreign journals.

Up to the present, the most important phase in the campaign against this disease has been popular education. Exhibits, lectures, and pamphlets, prepared in the most elementary terms, have for the past fifteen years brought home to the mass of the people clearly and definitely that this dread disease, which annually takes a toll of 200,000 valuable human lives in this country alone, is preventable and curable in its early stages. These methods have pretty thoroughly dispelled the ancient idea that tuberculosis is hereditary; that once it is fastened upon a human being there is no hope. The campaign has thrown light into many a dark corner. It has instilled hope in many a breast where before there had been only despair. It has brought a new appreciation of the value of human life and the importance of disease prevention in all fields of health work. The campaign has been probably one of the most important factors in the new appreciation of the importance of preventive methods.

It is encouraging to realize that behind all of this emphasis on popular education there has been a most substantial basis of scientific research and the development of an important mass of special technique. Many, even the most thoughtful layman, however, will no doubt be surprised that the quieter side of the tuberculosis campaign has grown to such proportions that it demands for its proper expression a monthly publication, comparable in purpose to the many technical medical journals already in existence.

In its editorial announcement the Review says:

"It is only within the last five or ten years that our knowledge of the relations of infection to disease has taken definite form. Years ago an elect few had a glimpse into the probability that to be a civilized human being was to be tuberculous and that only a few of the myriads of the tuberculous ever developed tuberculosis. But at the time the facts were not at hand to warrant positive statement. Today they are. And if anyone doubts that we have learned much and have traveled a long way since 1905 let him read a work on tuberculosis of today and contrast the point of view with that held ten years ago. Or let him read the writings of Dr. Trudeau consecutively beginning about 1890 and ending in 1915. He will see how timidity of statement gradually hardens into positiveness and, here and there, evolves even into pregnant prediction as the hard won facts come in—all too slowly sometimes yet uninterruptedly."

The health forces of this country may find much encouragement in the results achieved by the anti-tuberculosis movement in the last ten years. In 1905 the death rate was 200.7 per 100,000 of population; in 1916 the rate was 146.8 per 100,000 of population. Stated in another way this means that if the death rate of 1905 had continued in 1916 there would have been 53.900 more deaths from tuberculosis in this country than actually occurred. Some of the reasons for this saving is found in the following facts: there were 500 more tuberculosis sanatoria and hospitals in 1916 than in 1905; 430 more clinics last year than in 1905; 1,370 more anti-tuberculosis associations and committees last year than in 1905; there were approximately 800 open-air schools in 1916, whereas in 1905 there were none. There were 4,000 tuberculosis visiting nurses at work last year as compared with fifty in 1905.

VACANCIES IN PUBLIC HEALTH SERVICE.—According to a statement just issued by Surgeon General Rupert Blue, young medical men between the ages of 23 and 32 will be given an opportunity each month to demonstrate their fitness for admission to the grade of Assistant Surgeon in the United States Public Health Service. There are several vacancies in the government's mobile sanitary corps, which is now in the 119th year of its existence, but in order to be recommended to the President for commission, a physical and professional examination must first be passed. As the tenure of office is permanent and the Public Health officers are ordered to duty in all parts of the world, they are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate. Boards will be convened at Washington, Boston, New York, Chicago, St. Louis, Louisville, New Orleans and San Francisco, but permission to take the examination must first be obtained from the Surgeon General. The examination is searching and includes, in addition to the various branches of medicine, surgery and hygiene, the subjects of the preliminary education, history, literature and the natural sciences. The commissions will be issued as Assistant Surgeon and after four years of service, the young officers are entitled to examination for promotion to the grade of Passed Assistant Surgeon, and after twelve years of service to another examination for promotion to the grade of Surgeon. The annual salaries are: Assistant Surgeon, $2,000; Passed Assistant Surgeon, $2,400; Surgeon, $3.000; Senior Surgeon, $3,500; Assistant Surgeon General, $4,000. When the government does not provide quarters, commutation at the rate of $30, $40. and $50 a month according to grade is allowed. All grades receive longevity pay, that is, 10% in addition to the regular salary for every five years until the maximum of 40% is reached. When officers travel on official duties they are reimbursed their actual traveling expenses.

ARMY MEDICAL CORPS' EXAMINATIONS.—The Surgeon General of the Army announces that preliminary examinations for appointment of First Lieutenants in the Army Medical Corps will be held at convenient points the first Monday in each month. Full information concerning these examinations can be procured upon application to the "Surgeon General, U. S. Army, Washington, D. C."

The essential requirements to secure an invitation are that the applicant shall be a citizen of the United States, shall be between 22 and 32 years of age at the time of commission at the close of the Army Medical School, graduate of a medical school legally authorized to confer the degree of

Doctor of Medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training as intern after graduation.

Graduate physicians who are serving their interneship and who meet the other requirements can be examined for appointment with the understanding that they will complete the required postgraduate hospital interneship before coming to the Army Medical School.

Those who qualify at their preliminary examination and complete their hospital interneship by July first will be ordered to the Army Medical School for the special session of the school commencing July ninth. The regular session of the school will open on October first.

In order to perfect all arrangements for the examination, applications should be completed at the earliest practicable date.

There are at present 230 vacancies in the Army Medical Corps.

After July first, there will be 222 additional vacancies.

National Board of Medical Examiners.—The second examination to be given by the National Board of Medical Examiners will be held in Washington, D. C., June 13, 1917. The examination will last about one week.

The following States will recognize the certificate of the National Board: Colorado, Delaware, Idaho, Iowa, Kentucky, Maryland, North Carolina, New Hampshire, North Dakota and Pennsylvania. Favorable legislation is now pending in twelve of the remaining States.

A successful applicant may enter the Reserve Corps of either the army or navy without further professional examination, if their examination papers are satisfactory to a Board of Examiners of these services.

The certificate of the National Board will be accepted as qualification for admittance into the Graduate School of the University of Minnesota, including the Mayo Foundation.

Application blanks and further information may be obtained from the Secretary, Dr. J. S. Rodman, 2106 Walnut Street, Philadelphia.

Campaign Against Unclean Dairy Utensils.—An active campaign against the unsterilized milk can, pail, strainer cloth, and separator, as contributing causes to high bacterial count in city milk, is to be carried on this season by the United States Department of Agriculture in cooperation with the health and milk officials of a number of cities. Already health officers in 150 localities have accepted the department's offer to demonstrate to their local milk producers a simple home-made sterilizer, costing not more than $15, which if used on the farm will help guard the milk against this initial and serious contamination. How great a bearing sterilization on milk utensils on the farm has on the bacteral content of milk is shown by experiments which have proved that the average milk can, when washed in the ordinary way, may contain over eight billion bacteria, and that almost every milk can so treated harbors millions of bacteria which give a high bacterial count and hastens the souring of milk.

The home-made sterilizer for dairy utensils which is to be demonstrated uses steam as a sterilizing agent. All that is required to develop steam enough to sterilize the ordinary dairy utensils is a two-burner kerosene stove, and there is nothing about the device which calls for special skill in its effective use. The department has twenty of these sterilizers, described in Farmers' Bulletin 748, and has offered to supply an outfit for a two weeks' demonstration to any local health or dairy official who will agree to show it in operation to the milk producers in his section.

The effectiveness of this sterilizer has been fully proved both in the laboratory and on the farm. In one experiment ten gallons of fresh milk were divided into two parts. Five gallons, passed through a separator into a 5-gallon can, both utensils washed in the ordinary way, showed at the end of an hour 1,880,000 bacteria per cubic centimeter. The other five gallons, passed through a separator into a can, after both utensils had been washed and sterilized by means of the home-made sterilizer, showed only 24,000 bacteria per cubic centimeter.

The device, moreover, removes foul odors and leaves the utensils dry as well as sterilized. Experience shows that the bacterial count is thus materially reduced, while the producer finds that his milk does not sour so quickly and has an improved flavor.

The specialists of the Dairy Division are hopeful that the device, wherever it is demonstrated, will come into common use. It is believed that this sterilizer will find ready adoption among small dairymen because of its low cost of construction and operation, and because its use will tend to improve the quality and increase the keeping character of the milk.

PERSONAL.—ARTHUR F. HOLDING, M. D., (A. M. C. 1901), and SAMUEL BROWN, M. D., have collaborated with the publication of an article on the "Treatment of Hodgkins Disease," which appears in the Journal of the American Medical Association for March 3, 1917. An elaborate study of the literature and differential diagnosis and treatment is given, and the authors reach the following conclusions:

1. Microscopic examination of the tissues in all cases of enlarged nodes, especially in the neck, is to be recommended.

2. Attention should be called to the fact that cases of persistent idiopathic pruritus may be due to Hodgkin's disease.

3. The treatment of Hodgkin's disease is unsatisfactory. No efficient treatment is known. The treatment recommended is that in vogue for malignant tumors and occult infections. The results to be expected are temporary ameliorations.

4. Recoveries are rare. Of the thousands of patients treated there are only two authentic cases in which the patients are reported symptom free after five years.

5. The Roentgen ray and radium are the only new agents found beneficial in this disease, and should be used in treating it, at least after operation.

6. A Roentgen examination of the chest is indicated in all cases before an extensive surgical removal is considered. This will save many patients from a needless operation.

—Dr. Luther Emerick (A.M.C. '00), of Saugerties, N. Y., read the President's address of the Medical Society of the County of Ulster, at Kingston, N. Y., on the "Honor of the Profession," which is published in the New York State Journal of Medicine for March, 1917.

—Dr. Samuel H. B. Basch (A. M. C. '03), has removed from 311 East 86th Street, to 1190 Madison Avenue, New York City.

—Dr. Arthur Krida (A. M. C. '11), presented a paper upon "Health Insurance from the Public Health Viewpoint" before the Medical Society of the County of Schenectady at its February meeting, which is published in the March issue of the New York State Journal of Medicine.

—Dr. Harry V. Judge (A. M. C. '14), announces the opening of his office for the practice of ophthalmology at 140 Washington Avenue, Albany.

—The following named alumni of the Albany Medical College are announced to take part in the annual meeting of the Medical Society of the State of New York, to be held in Utica, N. Y., on April 24, 25 and 26: Albert Vander Veer, '62; Clement F. Theisen, '92; Charles Bernstein, '94; Henry L. K. Shaw, '96; Eugene E. Hinman, '99; Wardner D. Ayer, '10; Ward W. Millias, '12.

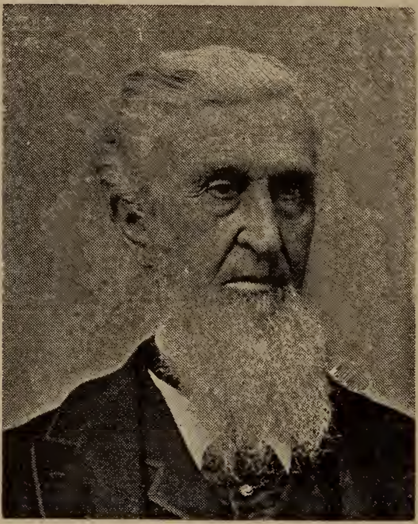
Died.—Dr. Aurora W. Giddings (A. M. C. '54), died at his home in Anoka, Minn., February 3, 1917, aged 86.

In Memoriam

PETER SCHERMERHORN WEIDMAN, M. D.

The following memorial sketch was published by Dr. E. W. Fiegenbaum, in The Madison County Doctor of February, 1917:

Dr. PETER SCHERMERHORN WEIDMAN, a man who for 41 years administered to the wants of the people in the eastern section of this county, was born in Schoharie Court House, New York, May 2, 1826. He gained his preliminary and classical education in the common schools and the academy of his native village, and at the age of twenty-four began the study of medicine under preceptors and at Ann Arbor. He took his last year at Albany Medical College, New York, from which he graduated in 1855.



After practicing in New York for two years, he came west and located at Marine, in March 1857, and immediately began an active business that was to last for many years. His was essentially a country practice, extending for many miles in all directions and either on horseback or in his high-wheeled sulky, he became a familiar figure in all the surrounding territory during the earlier years of his activity.

When he first came to Marine, he found five physicians already located there, and lived long enough to see twenty-five doctors come and go in that community during his professional career. He did a general practice and was a fair example of the type of "old family doctor," so general in that day and so unusual now.

He retired from active work in 1898, and after living in Marine two years more, moved to Edwardsville, and took up his residence in the

Leland Hotel, where he remained until March 1915, when he was taken to Jacksonville State Hospital. He died on January 2, 1917, aged ninety years and eight months.

Services were conducted from the Christian Church of Marine. The church was packed to capacity with the many old friends of the venerable physician, who came to pay their last respect to one who had lived as their neighbor for so long a time.

Interment was in the family lot at the Marine cemetery.

"The mossy marbles rest
On the lips that he has prest
In their bloom.
And the names he loved to hear
Have been carved for many a year
On the tomb."

Duncan S. Allen, M. D.

Dr. Duncan S. Allen, an alumnus of the Albany Medical College of the class of 1865, died at his home in Seneca, N. Y., December 23, 1916.

In the interesting history of the class of 1865, presented by Dr. Crothers upon the fiftieth anniversary of that class, the following appreciation and history of the career of Dr. Allen were given:

Dr. Duncan S. Allen, of Seneca, N. Y., was born in that place, and educated there. After graduating from the Albany Medical College in 1865, he opened an office in a frontier town in Michigan. Two years later he returned to Seneca, where he has continued in active practice up to the present. In 1870 he married. His wife died a few years later, leaving one child which is still living. In 1877 he was appointed health officer and in 1890 president of the board of pension examiners, and has been the leading physician in this section for over forty years, doing general practice and taking a very active part in all the duties and obligations of the community. He represents the best class of general practitioners whose work has been done with consistent energy and great satisfaction to himself and friends.

Robert Thomson, M. D.

Dr. Robert Thomson of the class of 1871 of the Albany Medical College died at his residence in Troy, N. Y., on December 24, 1916.

Dr. Thomson was a member of a class which has been well represented by famous men, and well sustained in a long and active practice, the traditions of his college and of his associates. He was born in Glasgow, and came to America when a young man. After graduation for mthe college he began practice in Troy, N. Y., and was fully occupied from the first. He was a most reserved and distant man to those who did not know him, but endeared himself to his classmates who appreciated all of his sturdy, strong characteristics, and was regarded as a bright scholar and a very popular man. His wife survives.

E. JAY FISK.

Military Medicine

MILITARY INSTRUCTION AND THE "ALBANY IDEA."

The admirable work done by the Clinical Club in Albany in military preparedness has been demonstrated by an important pamphlet recently issued. As the scheme is of such far-reaching value, it has been thought wise to reprint it in the ANNALS so that it may receive a larger circulation than the privately distributed pamphlet, and may also have permanent record.

The following named physicians are the members of the Clinical Club who have accomplished this large task: Dr. ARTHUR J. BEDELL, Dr. FREDERICK C. CONWAY, Dr. ERASTUS CORNING, Dr. JOSEPH A. COX, Dr. MALCOLM DOUGLAS, Dr. EUGENE E. HINMAN, Dr. ELLIS KELLERT, Dr. JOSEPH A. LANAHAN, Dr. JOSEPH P. O'BRIEN, Dr. DANIEL V. O'LEARY, Dr. JAMES F. ROONEY, Dr. HARRY RULISON, Dr. JAMES N. VANDER VEER.

FOREWORD.

WAR DEPARTMENT,
Office of the Surgeon General,
WASHINGTON.

The first plan of reporting on the sanitary resources of the country submitted to the Department originated with the Clinical Club of Albany, New York. This Club, upon its own initiative, prepared a report upon the sanitary resources of Albany and the surrounding territory, which showed deep appreciation of the importance of the subject. This report could, with but few, if any modifications, be applied to the country as a whole.

A study of the plan which has been aptly termed the "Albany Idea" is so carefully worked out, the information contained so voluminous, that it would be of infinite value to a division surgeon or chief surgeon of an army operating in that area. The possession by this Department of similar information for the country as a whole would be of inestimable value.

M. C. GORGAS.
Surgeon General, U. S. Army.

PLAN OF MILITARY INSTRUCTION OF THE CLINICAL CLUB OF ALBANY, N. Y.

In November, 1915, a group of physicians in Albany, N. Y., recognizing the need for a more detailed knowledge of medico-military matters on the part of the medical profession, started on the work here outlined. The interest so aroused, and the gradual development of the plan, has encouraged them to present the results of their work in the form of a report. It will be seen that the plan provides a scheme of study whereby individual physicians may equip themselves with a theoretical knowledge of medico-military topics.

Typewritten pamphlets on various topics are handed to each member of the society to read and study at his leisure. A pamphlet on Organization has already been issued. This was a digest of the article on organization in Field Service Regulations 1913. The later "Tables of Organization" of the Army were not issued, as it was felt that a concise statement as given in Field Service Regulations 1913 would better serve the purpose intended.

A pamphlet on the duties of medical officers has also been issued. The basis of this is Army Regulations, Article XLIV, New York State Military Regulations, and the Manual of the Medical Department.

The idea of giving each man a short paper on the various topics to study at his leisure was considered the best method of presenting some phases of the subject; inasmuch as each member of the Clinical Club is a busy practitioner and would scarcely find time to look up and collect a large number of references for himself.

The scheme of instruction also includes lectures by Army and National Guard officers on the various topics mentioned in the outline of subjects.

In addition to this, certain problems, of which five specimens are presented, have been utilized. These problems, as closely as possible, cover certain exigencies that would arise in the time of war. As presented they are local in their form, but general in their nature. With slight changes they could be made to apply to any locality. In allotting the different subdivisions of each problem to the individual men, orders have been issued. This accustoms the men to receiving and interpreting military orders and prepares them for instruction in order writing. Each problem depicts the usual general and special situation. Then follows a detailed plan for the working out of the problem.

By adapting the problems suggested to their various localities, they not only apply in part some of this theoretical knowledge, but will collect as a result of this work information that might be of no inconsiderable value to the War Department. The plan covers the emergencies of peace as well as those of war, for the training received by a group of men, and the information collected, would be applicable to conditions arising as a result of floods, fire, steamboat accidents, etc.

Should the plan be put in operation in a chain of cities designated by the War Department, and the information lodged with the proper authorities at Washington, the military authorities would have ready at hand accurate information concerning any locality where the need for establishing medical bases might arise. They could determine at a glance wherein the resources of any given city were deficient, where excess of required needs existed, and by transferring physicians, nurses and supplies, avoid confusion and suffering.

The plan as outlined can be used by groups of any size. In general the more men at work on the plan, the more rapidly and easily will be the collection of information. It must be borne in mind, however, that many parts of the plan overlap each other and that real co-operation on the part of the men is essential.

The plan is applicable to cities of any size. In the smaller cities one group can cover the situation adequately. In larger cities the city can be divided into districts and the entire plan applied to each district by separate groups of men acting under the coordination of a central committee.

Individual physicians, such as members of the Medical Reserve Corps, or Medical Clubs already organized, or County Medical Societies, provide the obvious starting points for this work in various localities.

Outline of Subjects for Study.

I. Books and Authorities:
Manual Medical Department; Army Regulations; Hospital Corps Drill Regulations and Service Manual; Field Service Regulations; Straub's *Medical Service in Campaign;* Munson's *Sanitary Tactics; Military Hygiene,* Harvard; *Military Surgery,* La Garde; *Map Reading,* Sherrill.
II. General plan of organization of military forces.
III. Branches of Service.
IV. Organization of Medical Department.
V. Hygiene of Troops: Recruit, Personal Hygiene, Troops on March.
VI. Camp Sanitation.
VII. Orders.
VIII. Map Reading.
IX. Problems.
X. Duties of Medical Officers: Troops in Campaign, Diseases of Troops in Relation to Climate, Food, etc.; Disposal of Wounded, Articles of War.
XI. Arms.

Problem No. 1.*

General Situation.

A portion of the Atlantic fleet has been defeated and Boston has been taken by the enemy. The enemy also succeeded in landing a large force on the New Jersey coast and has routed the small force of regulars and National Guard sent to oppose them and New York City has fallen.

The United States troops are slowly retreating in good order from Boston along the Boston-Albany highways and along the New York-Albany highways toward strongly intrenched positions about Albany. Here a large force has been stationed to check the enemy's advance and prevent his taking the city.

From secret information that has come into the commanding general's possession it is known that Albany is the enemy's immediate objective because of the numerous railroads, electric roads and water routes centering here.

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* See "Outline of Subjects," No. IX.

Special Situation.

Numerous spies have been detected within our lines and have been executed. Today, one of the enemy's sympathizers was shot while attempting to contaminate the city's water supply.

FIRST DIVISION NORTHERN ARMY,
Blank date, 7 P. M.

SPECIAL ORDERS
No. —

I. (Grade) Medical Corps, (Grade) Medical Corps and Captain John Y, Corps of Engineers, will investigate the water supply of the city of Albany and report in writing to the Chief Surgeon Division such recommendations as may be necessary to safeguard this water supply from contamination and destruction by any of the enemy's sympathizers that may be within our lines.

II. It is ordered that such report with maps, sketches and other necessary data shall be made not later than forty-eight hours from the receipt of this order.

By command of Major-General X.

X. Y. Z.,
Lieut.-Col., Adjt.-Gen.

(Grade)

Oral communication from the Adjutant-General Division that the civil authorities of Albany will place at their disposal maps, etc.

WATER PROBLEM.

Possible enemy sympathizers who have a familiar knowledge of the water supply should, as a matter of military necessity, be interned immediately on the outbreak of hostilities.

Immediately on the outbreak of hostilities, the civil or military authorities should *without delay* take such measures as may be needed to adequately protect the water supply and watershed from destruction or contamination. This is especially necessary where the water supply is impounded.

In cities the municipal authorities usually have maps showing all water mains, fire plugs (hydrants) cut-off, etc. Similar maps are in possession of insurance companies. These maps should be obtained or copies made, or copies of essential parts made by tracings, etc., and incorporated as part of the report.

Sources of municipal water supply: River, Lake, Artesian wells, Driven wells, Dug wells, Rain water.

Amount of daily supply needed for municipality — on the average should not exceed 20 gallons per person per day and may be diminished to five gallons per person per day.

Methods of preventing wastage when water supply is diminished.— Meters; Inspection of dwellings; Factories; Public buildings; Stores, etc., for leaky faucets, etc.; Maps showing main cut-offs; newspaper announcements.

How stored:

By pumping plants; daily capacity of each pump; in reservoirs, etc.; amount on hand from all sources.

Possible sources of usual contamination and how remedied in ordinary supply, *e.g.*, by filtration, etc.

Possible places and means of contamination by enemy or enemy sympathizers.

Most vulnerable points for crippling water supply of community, *e.g.*, Pumping station; reservoirs; main conduits, aqueducts, etc.

Length of pipe line to be guarded; area of reservoirs, etc.

Average depth below surface of main lines of pipe supplying community.

Possible methods of fire control in case water supply was destroyed, viz.:

A — By razing buildings in locality or blowing up buildings by explosives;
B — Character of explosives needed and where obtainable;
C — Increase of fire departments for this purpose;
D — Number of men in locality trained in use of explosives that might be utilized.

Emergency water supply. (In most of the older communities in the United States old wells formerly used might be reopened. These will be contaminated and should be examined, etc., and means taken for purification.)

Location of these wells on maps. Data to be obtained from health authorities, city engineers, old residents, proceedings of municipal legislative bodies, etc.

Digging or driving new wells. (Study of soil of locality; of impermeable strata, etc. Data may be obtained from maps made by, or by consultation with, State Geologist or Universities which have studied certain areas in nearby regions.)

Simple methods of purifying emergency water supply. (Filtration not included because it creates false sense of security.) — The best is hypochlorite of lime, the so-called chlorination method. In determining the feasibility of the latter consider the possibility of obtaining materials needed under war conditions, and the average daily amounts of purifying materials needed for whole community. If wells are used, estimate number of persons needed to manage water supply and number of guards necessary to prevent wastage, etc.

Map out method of tapping underground streams (if any) known to exist in locality.

Materials and men needed and source of supplies for tapping or driving new artesian and driven wells.

Methods of distribution of emergency water supplies.

PROBLEM NO. 2.

General Situation.

A portion of the Atlantic fleet has been defeated and Boston has been taken by the enemy. The enemy also succeeded in landing a large force on the New Jersey Coast and has routed the small force of regulars and National Guard sent to oppose them and New York City has fallen.

The United States troops are slowly retreating in good order from Boston along the Boston-Albany highways and along the New York-Albany highways toward strongly intrenched positions about Albany.. Here a large force has been stationed to check the enemy's advance and prevent his taking the city.

From secret information that has come into the commanding general's possession it is known that Albany is the enemy's immediately objective because of the numerous railroads, electric roads and water routes centering here.

Special Situation.

Besides a very large number of troops in and near Albany an enormous number of refugees (100,000) from New England, New York City and the contiguous territory have arrived here. These are largely destitute women and children. In addition, owing to the crippled condition of Albany's industries because of the war, a large part of the normal population is in want.

The care of these women and children and especially the management of the milk supply has become a very acute problem. The civil and military authorities have met and discussed it.

FIRST DIVISION NORTHERN ARMY,
SPECIAL ORDER Blank date, 8 P. M.

I. (Grade) Medical Corps, (Grade) Medical Corps and (Grade) Medical Corps will immediately investigate and report in writing at the earliest possible time to the Chief Surgeon Division such recommendations as may be necessary to relieve the distress now existent among the civil population of Albany.

II. They will direct especial attention to the quantity, quality and management of the distribution of the milk.

By command of MAJOR-GENERAL X,
X. Y. Z.,
(Grade) *Lieut.-Col., Adjt.-Gen.*

In order to avoid confusion, this order is followed by an outline covering the milk problem only. It is recognized that the care of a large number of civilians would include many problems other than the supply and distribution of milk, but these questions of housing, food, clothing, etc., will be found below under Problem No. 3.

The information required below can be obtained from the following sources:

Practical Hygiene, Harrington and Richardson; *Preventive Medicine and Hygiene,* Rosenau, M. J.; *The Milk Question,* Rosenau, M. J.; *Milk and Public Health,* Savage, William G.; *State Agricultural Reports; Reports of Milk Inspectors of Municipality.*

Milk.

1. *Sources of Supply:* Daily amount of local supply brought in by horse or motor vehicle; daily amount of distant supply brought in by steam railroads; boat; electric railroads; daily amount passing through in transit to other destinations that might be seized in emergency.
2. *Modes of Transportation:* (Rail—Other Vehicles).
3. *Routes of Transportation:* Steam railroad; boat; electric railroads; motor vehicles; horse-drawn vehicles.
4. *Emergency Supply*—Possible sources of supply at present available but not utilized.
5. *Constant need of City,* (amount in gallons): Based on caloric values. (Consult local and State health officials); infants outside of institutions; children; hospitals for children; hospitals for adults; orphanages; infant homes; homes for aged; hospitals for tuberculosis.
6. *Minimum need of city during emergency* (amounts in gallons): Based on caloric values of needs of infants under 2, children under 10, and average number of invalids.
7. *Total number of containers:* 10 gal. cans; 1 gal. cans; 1 qt. bottles; 1 pt. bottles.
8. *Total pasteurizing capacity:* Flash process; holding process.
9. *Modes of intra-urban distribution:* Motor vehicles; horse vehicles.
10. *Establishment of distributing stations* (distribution of infant population in municipality): City maps; birth records; distribution by doctors; all children under 10 years of age in proper street location on map.
11. *Administration of Distributing Stations:* Amount needed per day per station; number of employees needed; bottling apparatus; cleaning and sterilizing apparatus; pasteurizing aparatus; tickets.
12. *Refrigeration:* Total poundage of ice needed for entire daily supply; total poundage of ice needed at each distributing station per day; approximate poundage of ice needed for preservation at homes.
13. *Milk analysis.*
14. *Accounting*—cost; fixed charges; clerical help.
15. *Total available supply of preserved milk and milk preparations:* Condensed milk; condensed cream; evaporated milk; evaporated cream; malted milk; Mellin's food; Nestle's food; Mammala; Eskay's food.

(*To be continued*)

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Original Communications

ACUTE MYELOGENOUS LEUKAEMIA.

THE REPORT OF TWO CASES WITH POSITIVE OXYDASE REACTION.

BY L. W. GORHAM, M. D.,
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The purpose of this communication is: (1) to record two cases of acute myelogenous leukaemia; (2) to point out all the methods of study and diagnosis of this disease, especial emphasis being laid on the value of the oxydase reaction as a means of differential diagnosis; (3) to supply a complete review of all the cases of acute myelogenous leukaemia in the literature; (4) to present the theories and the evidence offered to solve the question of etiology; (5) to stimulate the more thorough study from the hematological side of all cases of general sepsis.

Acute myelogenous leukaemia (myeloblastic leukaemia, acute myelosis) is a fatal disease of unknown etiology, characterized clinically by a short course, fever, hemorrhages, ulcerative changes of the mucous membranes and moderate splenic enlargement.

According to this definition it is not distinguishable from cases of acute lymphatic leukaemia. The blood picture, although resembling lymphatic leukaemia, may usually be differentiated by careful morphological and chemical study. The pathologic histology is characteristic, showing myeloid transformation of bone marrow, spleen and lymph glands.

The first case of leukaemia running an acute course was described by von Friedreich[1] in 1857. The patient died two months after the onset of the disease. Ebstein[2] in 1889 described the clinical picture, and A. Fraenkel[3] in 1895 called special attention to the pathological changes of the blood, stating that acute leukaemias were all lymphemias, in which the increase in the white cells was almost, if not entirely, in the lymphocytes. From that date contributions to the literature of acute leukaemia have been many, although the cases have been almost exclusively classified as acute lymphatic, and indeed the existence of an acute myeloid leukaemia was denied by the majority of writers until 1904.

In recent years, it has become more generally recognized, that an acute leukaemia of the myeloid type is of more frequent occurrence than was formerly supposed. Undoubtedly many of the cases reported as acute lymphatic leukaemia before the last decade would now be called myelogenous, in the light of our present knowledge. It seems more reasonable to suppose that the acute myelogenous cases have been wrongly classified as acute lymphatic leukaemia, than to believe that the incidence of myeloid cases of the acute type has suddenly become greater. Indeed, a review of the more recent literature seems to indicate that acute lymphatic leukaemia is actually the rarer disease.

The effort to classify the types of acute leukaemia leads one to the question of the origin of the white blood cells. Ehrlich separated the white blood corpuscles into two distinct groups, one type showing a granular protoplasm (granulocytes, leukocytes), the other devoid of granules (lymphocytes). The leukocytes he believed had their origin in the granular cells of the bone marrow (myelocytes), while the lymphocytes were considered to spring from the Keim centrum cells of the lymph glands. The large mononuclear cell he conceived to be a special off-shoot of the bone marrow, destined later to become a polynuclear cell. This was the foundation of the Dualistic Theory of the origin of white blood cells, which draws a sharp line between leukocytes and lymphocytes, and between the tissues from which they originate, bone marrow and lymphatic gland. The modern Dualists, of whom Naegeli is the principal representative, have added another link to the chain of the life history of the granular cells. They believe that there is an earlier stage than the myelocyte, and that it is the large non-granular mononuclear cell occurring in the normal marrow, generally termed myeloblast after Naegeli,[4] but also known by many other names such as Large Lymphocyte of Pappenheim, Indifferent Lymphoid Cell of Wolff, Lymphoid Bone 'Marrow Cell of Türck, etc.

Ehrlich observed these cells in the bone marrow, but thought they were myelocytes which had lost their granules. Because of Ehrlich's work in separating granulocytes from lymphocytes it was for a long time customary, when studying leukaemias, to designate all acute cases with a preponderance of large mononuclear non-granular cells as acute lymphatic leukaemia. Gradually, however, points of proof have been brought forward to show that many cases possessing these non-granular cells, as well as occasional atypical cases with both granular and non-granular cells (wrongly called mixed leukaemia) are actually acute myeloid, and not acute lymphatic leukaemia. The evidence for this now generally accepted view rests upon the careful study of cases of acute leukaemia, in which it has been possible to repeatedly demonstrate all the transitional stages from the myeloblast, through the myelocyte to the mature granular leukocyte of normal blood.

This is the conception of acute leukaemia held by the Dualists. Opposed to them are the supporters of the Unitarian Theory, whose leading advocate is Pappenheim. He objects to the sharp separation of lymphadenoid and myeloid tissue, and objects to the dividing line between granulocytes and lymphocytes. He believes that both kinds of cells develop from a single stem form.

The majority of authors, Unitarians and Dualists alike, regard the cells of normal blood as finished products or terminal forms. Even the transitional cell is not thought to develop into a polymorphonuclear leuocyte, as Ehrlich believed.

In order to give more than pure morphologic proof to their contentions as to the differences between lymphadenoid and myeloid tissues, the Dualists bring forward the following experimental work dealing with chemical, biological, functional and embryonic studies.

The chemical differences are as follows: (1) von Brandenburg[5] found an oxydizing ferment in myeloid cells. Complete agreement on this point among other workers is lacking. (2) Müller and Jochmann[6] described a proteolytic ferment present in myeloid cells, not found in lymphocytes. This has not been generally confirmed. (3) Schultze[7] demonstrated the presence of oxydase in granulocytes, by means of the Winkler[8] oxydase reaction the so-called Indolphenol blue synthesis test. For this, one per cent alpha naphthol, and one per cent dimethyl paraphenylenediamine were used. Confirmatory work by many authors has appeared, showing a constant difference between granular and non-granular cells (figs. 12, 13). The only instances where the test has been reported negative have been in the cases showing only very young myeloblasts, or myeloblasts in a recidiv after X-Ray and radium treatment. The transitional cell gives a positive oxydase reaction (fig. 14).

Biologic differences are seen in chemotaxis which is a characteristic phenomenon of polynuclear cells as opposed to lymphocytes. For example, no lymphocytes are found in suppurative processes occurring in a case of lymphatic leukaemia. Phagocytosis is shown by polynuclears and transitional cells only. Ordway[9] has found that attempts to differentiate myeloblasts and lymphocytes by testing phagocytosis were unsuccessful. Phagocytic power is evidently not present in very young cells of the marrow, comparable to which is the absence of oxydase. Oliver[10] tested the phagocytic power of the white cells of myelogenous leukaemia blood by separating the buffy coat of leukocytes and mixing it with a suspension of staphylococci. He found that polymorphonuclears and fully developed myelocytes took up these organisms. The earlier forms i. e. the myeloblasts and premyelocytes failed to engulf the bacteria.

The functional difference between myelocyte and lymphocyte can not be disputed. Myeloid metaplasia of an organ is brought about by increase of myelocytes and myeloblasts, but never by lymph follicle cells. The oxydase reaction proves this clearly when applied to the spleen and the lymph gland of a case of myelogenous leukaemia. The lymphatic elements atrophy under compression of the developing myeloid cells. Here is the weak point of the Unitarians. Even Pappenheim admits dualism of function of the myelocyte and lymphocyte, under pathological conditions. He describes two types of acute large celled leukaemia, one of which shows myeloid metaplasia (Schultze's type), and the other which shows a pathological change in the Keim centrum cells of the lymph follicles. The difference in function certainly argues for differences in morphology, and differences in the two kinds of tissues.

Naegeli[4] and Schridde's studies in the embryo show that myeloid tissue is formed first and lymphoid tissue much later.

In spite of all this evidence favoring the Dualistic theory, the statement of the Unitarians that the "Stamm" cell can not with certainty be differentiated, is not to be denied. At present the question of the origin of the blood cells is still open, although they are proved to be functionally different.

Walter Schultze[7], was the first to apply the oxydase test and to report the pathological histology of a case showing large mononuclear, non-granular cells in the blood (apparently lymphocytes, but actually myeloblasts). He found at autopsy the well recognized proofs of myelogenous leukaemia, evidenced by hyperplastic marrow and the appearance of myeloid tissue in the different organs, especially in the spleen and lymph glands. In recent years a number of observers have reported the same pathological findings in very carefully studied cases which were presumably acute lymphatic leukaemia.

On the clinical side there is nothing to distinguish acute myeloid from acute lymphatic leukaemia. The history as well as the results of physical examination may be identical in the two conditions. Glandular enlargement, splenic tumor and hemorrhages of varying grades occur in both. One can not say that there is more extensive glandular involvement in acute lymphatic leukaemia, and greater enlargement of the spleen in acute myelogenous leukaemia, rules which may be laid down for the chronic forms. The clinical picture may assume one of three types: (1) it may be insidious in onset showing only progressive loss of strength, increasing pallor and light fever; (2) it may begin with a severe ulcerative gangrenous process in the mouth accompanied by hemorrhages into the skin or from the mucous membranes; (3) it may show a sub-acute form with the swelling of the spleen and lymph glands as the dominant feature. The second and third types are sometimes thought to be surgical cases before the true nature of the disease is suspected. The later course of the disease in all three types described is usually the same, showing a marked hemorrhagic tendency, and severe anaemia with high fever. The differential diagnosis can only be made on the basis of a carefully interpreted blood examination. The white blood count is low at first, but increases rapidly. Throughout the disease it is low in comparison with that of chronic myelogenous leukaemia, and is rarely over 200,000 per cubic millimeter. Infrequently, aleukaemic cases occur in which the white cells never exceed seven or eight thousand per cubic millimeter. The red cells are not characteristically altered, although more nucleated forms are usually found in myeloid than in lymphatic leukaemia.

The single most characteristic point in the blood picture is the occurrence of a large number of mononuclear cells representing all stages from the non-granular myeloblast to the fully mature myelocyte. With the advance of the disease the per cent of myeloblasts increases. In some instances one finds difficulty in distinguishing myeloblasts from large lymphocytes because the cells are so very similar in appearance. In some cases small myeloblasts resembling small lymphocytes predominate, as in the reports of Isaac and Cobliner[11] and of Marchand.[12] Very characteristic of the acute myelogenous leukaemia is the " atypie " of all the white blood cells, i. e. the tendency to vary from the normal type cell. Rieder cells and myeloblasts with abnormal lobulation of the nuclei are examples of this. Eosinophiles and mast cells may be very few in number in many cases, or again greatly increased in other instances. There is a decrease in neutrophilic granulation in some cases until polymorphonuclear leukocytes without granules predominate. As examples of this are the instances reported by Hirschlaff,[13] W. H. Schultze,[7] Herz,[14] Pappenheim and Hirschfeld,[15] and Butterfield.[16]

The autopsy findings are the same as in chronic leukaemia except for more frequent hemorrhages in the internal organs and gangrenous processes in the mouth. Lymph nodes are apt to show more enlargement than in the chronic form, but this is not always so. The spleen and liver are often greatly enlarged, but may be small. The bone marrow is pyoid or red, although fat marrow may be found in the long bones in some cases. The bone marrow always shows a diffuse affection, but never the localized lesions of lymphatic leukaemia. Histologically, there is a proliferative process of the myeloid type in the spleen, liver, and lymph glands, and a suppression of lymphoid activity.

A diagnosis of acute myelogenous leukaemia in order to be above criticism, must be substantiated by proof of the following points: (1) an aleukaemic or subleukaemic stage; (2) an acute downward course with death usually ensuing in one to four months; (3) the characteristic blood picture of myeloblasts and myelocytes with the transition forms between the two; (4) the typical gross and histological findings of the liver, spleen, bone marrow and lymph glands; (5) the specific proof of myeloid elements by enzyme reactions.

There were only seven authentic cases in the literature in 1903, according to Billings and Capps,[17] who then reported their case, making eight in all; and although this number has been augmented since then, there are still very few cases on record which fulfill all the postulates above laid down for establishing the diagnosis of acute myelogenous leukaemia.

In 1913 Naegeli, making a critical study, finds that the only instances on record where a subleukaemic or aleukaemic stage was noted are the following: (1) Billings and Capps,[17] (2) Mager and Sternberg,[18] (3) Hirschfeld and Alexander,[19] (4) Naegeli,[4] (5) Ziegler and Jochmann,[20] (6) Wynhausen,[21] (7) Herz.[14]

One must further remember that an acute exacerbation of a long standing leukaemia may lead to error. For this reason a short duration of symptoms is important in order to exclude a pre-existing chronic leukaemia. A case which illustrates this fallacy is reported by Panton and Tidy.[22] A typical chronic myeloid leukaemia of long duration showed a myeloblastic change just before death. On November 28, 1911, myeloblasts were 7.6 per cent, and on March 12, 1912, myeloblasts had increased to 94.4 per cent. The authors believe this to be more common than supposed and therefore a possible source of error. Other similar examples are the cases of Steffler,[23] Zypkin,[24] Rieux Savy and Courjon,[25] Scott,[26] Van der Wey,[27] von Müllern and Grossmann,[28] von Jagic and Neukirch,[29] Wilkinson,[30] Flesch,[31] Klieneberger,[32] Browning,[33] and Melland.[34]

The blood picture of all cases of acute myelogenous leukaemia is strikingly suggestive, because of the difficulty met with in classifying the large mononuclear cells. Some of these, the myeloblasts are non-granular and look much like the ordinary large lymphocyte, while others with a varying amount of granular protoplasm supply the transitional stages to the mature myelocyte. In addition a general variation of all the white cells from the normal type is observed, which point in itself is very strong evidence of increased or abnormal bone marrow activity.

Naegeli[4] feels that the lymphocyte can be separated from the similar appearing myeloblast on certain finer morphological characteristics of nucleus. According to his conception the myeloblast is a large mononuclear cell with deeply basophilic protoplasm, which shows four or five nucleoli in a lighter azure staining nucleus. The lymphocyte differs from this cell in having a less basophilic protoplasm, a darker nucleus with only three or four nucleoli. It is not always possible for the average observer to decide the nature of isolated cells with these criteria. If, however, a given preparation is found to contain a few typical Naegeli myeloblasts, numerous myelocytes, and pre-myelocytes, the remaining mononuclear cells of doubtful nature, it is safe to conclude, are probably members of the myeloid family in most instances. The oxydase reaction is a valuable aid here.

Conclusive proof is lacking in many excellently studied cases, because a complete autopsy with histological study of liver, spleen, bone marrow and lymph glands was not made. Myeloid change in these organs must be demonstrated microscopically before one can say the case has been proven to be acute myeloid leukaemia. A slight myeloid change is not sufficient proof. It must be a marked transformation, since mild proliferation of myeloid tissue is not uncommon in severe anaemias. The possibility of error in failing to insist on this point is well illustrated by several cases cited by Naegeli. Morawitz[35] reports a severe anaemia following a necrotic angina which lasted some time. Enormous numbers of normoblasts and megaloblasts were seen. The neutrophilic myelocytes numbered 20 per cent; the eosinophilic myelocytes 1 per cent. The total of white cells was 22,100. Considerable improvement followed transfusion, with ultimate return to a normal blood picture. On the clinical and blood findings scarcely anyone would doubt that the case was one of acute myelogenous leukaemia, but since the patient recovered, one is forced to conclude that it was an anaemia with a very active bone marrow. Simon[36] reports an interesting case of a fractured bone with coccus infection: white cells 50,000; neutrophilic myelocytes, 15 per cent; eosinophilic myelocytes, 1.2 per cent; mast cells, 17.5 per cent; erythroblasts, 5.5 per cent. Recovery and normal blood picture followed amputation. Teeter[37] reports a child of six years ill with fever and severe anaemia: white cells, 130,000; erythroblasts 20,000 per cubic millimeter; myelocytes, 11 per cent. Recovery.

Marshall[38] reports a case of acute miliary tuberculosis showing the blood picture of an acute myelogenous leukaemia. The patient, fifty-two years old, was sick only five weeks with fever, weakness and chilly sensations. Increasing pallor, weakness and cyanosis led to an anaemic death. Spleen and liver slightly enlarged. Glands negative. Blood culture negative. Red blood cells 1,320,000. White blood cells 23,840. Hemoglobin 20 per cent. (Sahli.) Polynuclear leukocytes 42.5 per cent; lymphocytes 4 per cent; large mononuclears 18.5 per cent; myeloblasts 2.4. per cent; premyelocytes 1.8 per cent; myelocytes 30.4 per cent. The total myelocytic forms being 34.8 per cent, clinically acute myelogenous leukaemia seemed probable. Autopsy showed normal marrow, with absence of myeloid change in spleen, liver and lymph glands. Instead, a miliary tuberculosis was discovered. Roth[39] describes a similar case. The reports of such cases testify to the necessity of autopsy and careful histological study for final and complete proof.

Last of all conclusive proof should be obtained of the myeloid nature of all cases by the application of the indolphenol blue synthesis test. If this test for oxydase is positive on blood or tissues, there can be but one interpretation as to the nature of the cells which give it. There are indeed few cases on record which would pass a censorship so strict as that outlined. Of the two cases here reported only the first is proven beyond the shadow of a doubt to be acute myelogenous leukaemia, while the second though probably a typical case lacks histological proof, as permission for an autopsy could not be obtained.

CASE 1: Patient, Mrs. B., fifty-eight years old, was admitted to St. Peter's Hospital, August 20, 1914, complaining of weakness and shortness of breath. The family history was an excellent one, and the patient herself had never before been seriously ill. She performed her household duties during May, and felt perfectly well up to about June 1, 1914. From June 9th to 20th she had a small abscess on the buttock, for which she consulted her family physician. He reports that this healed promptly and that although she complained of weakness, there was then no marked change from her normal color. On July 1st her physician noticed for the first that the skin and mucous membranes were pale. Shortness of breath, weakness and palpitation gradually developed. There was a slight loss of weight. There had been no hemorrhages excepting one nose bleed. In July she had complained of swelling and pain of the gum about one of her lower central incisors. Her dentist removed tartar therefrom and painted with iodine. There was no bleeding. On August 19th the patient discovered that her neck was slightly swollen on both sides in the submaxillary region where she felt a lump on the left side. There was no pain and no discomfort of any kind after twenty-four hours, although at first she could swallow only liquid food because the jaws seemed difficult to open. She noticed no redness of the neck. No subjective sensations of fever were present up to this time.

The next day, August 20th, she was first seen, when physical examination showed a moderately well-nourished woman, evidently very weak, with striking pallor of the skin and mucous membranes. Temperature 99.8 degrees F. Pulse regular, low tension. Respiration 20. Mouth negative, teeth normal, no ulceration or swelling about lower central incisors. Heart and lungs negative except for a hemic murmur. Liver and spleen not palpable. No enlargement of the lymphatic glands excepting the right submaxillary which was slightly swollen. No signs of hemorrhages in skin or mucous membranes. Vaginal and rectal examinations negative. No positive findings in examination of central nervous system. Eye grounds were not examined. Urine—pale yellow, clear, acid reaction, specific gravity 1.020, trace of albumin, no sugar. Microscopically, sediment showed only an occasional pus cell. Blood examination—red blood cells 3,200,000 per cubic millimeter, white blood cells 26,800 per cubic millimeter, hemoglobin 60 per cent (Sahli).

The course of the disease was acute and progressively downward. The temperature and the pulse rate rose, and the patient lost strength quickly. The entire observation in the hospital was fifteen days, death ensuing on September 5, 1914, about nine weeks after the first symptoms were noted.

A few days before the end, a terminal pericarditis appeared and the temperature, which had previously ranged from 99 to 101 degrees F. rose to 103 degrees F. At no time were there hemorrhages or ulcerative stomatitis, usual accompaniments in cases of this type. The spleen and lymph glands did not become palpable.

Blood films (Fig. 9) prepared on cover slips and stained with Ehrlich's, Jenner's and Wright's stain were studied. The great majority of the white blood corpuscles were poorly differentiated cells of different size, their nuclei being oval or slightly indented. The protoplasm showed little granulation with Ehrlich's stain, but with Wright's, many faint granules were seen in a fairly large percentage of cells. The utmost difficulty was encountered in making the differential counts, because it was not always easy to classify the mononuclear cells. Even with Ehrlich's stain it was found as Emerson[40] has stated, that "in leukemia it is exceedingly difficult to draw the line between granular and nongranular cells, since there are so many mononuclear cells with a protoplasm suggesting a faint granulation." Wolff[41] says that in studying acute leukaemic blood, methylene azure mixtures are preferable to Ehrlich's stain. The differential counts were made with Wright's stain. An effort was made to group the cells under the following headings, but it must be stated that even with a clearly defined scheme, some cells were found which might well have belonged to either one of two groups:

1. Myelocytes. Many variations in size and staining reaction were noted. Cells were seen as small as the ordinary lymphocyte or even smaller. Typical large myelocytes were rare, the majority of cells of this type being small, with oval or slightly indented nuclei and a thin fringe of neutrophilic or basophilic granulation. On the other hand, there occurred cells one and one-half times the size of the ordinary polymorphonuclear leucocyte with very faint or even distinct neutrophilic granulation, but the granules were hardly as well marked as those found in the fully ripe myelocyte. There was a great variation in the staining of the granules, as well as in the size of the myelocytes. The tint given by the dye was, for the most part, atypical, and often appeared like a blending of eosinophilic and basophilic staining, but the color of the granules more nearly approached the latter type. The first examination of the blood showed; neutrophilic myelocytes 39.3 per cent, easinophilic myelocytes 0.7 per cent, basophilic myelocytes 4. per cent.

2. Myeloblasts and premyelocytes. In addition to the foregoing there were found cells of the same general appearance except that they had no granules at all or a very few fine ones, the former being myeloblasts, the latter premyelocytes. According to Naegeli, myeloblasts may be differentiated from lymphocytes. They are cells varying in size from that of the ordinary lymphocyte to that of a large mononuclear, or even larger. They have large oval nuclei which take an azure stain, and present a fine smooth chromatin network. A point upon which Naegeli lays much stress

is that the myeloblasts show four or five nucleoli while the lymphocytes, with which they may be confused, have only three or four. The protoplasm varies in amount, is not excessive, but always takes a markedly basophilic stain. Granules are not present in the typical myeloblast. There were found in the blood of this patient, cells, illustrating all variations in size, and in morphological characteristics, from the myeloblast to the myelocyte. For example, there were seen myeloblasts of the usual size, one and one-half to two times as large as the ordinary polymorphonuclear leukocyte, and still others no larger than lymphocytes. No granules at all were found in the myeloblast, but a fine sprinkling was present in the slightly older cells which were termed premyelocytes, or the cells of the transition stages to myelocytes. The younger the cell form, the fewer were the granules. Myeloblasts and premyelocytes together were 32.4 per cent.

3. Polymorphonuclear leukocytes. Not a single fully mature cell of this class was to be found. Atypical unripe small cells with faintly developed granules and a nucleus not polymorphous, but only slightly indented, were present. These cells represent the transitional stages between myelocytes and leukocytes. They may be designated as unripe leukocytes or micromyelocytes. 0.3 per cent of these cells were present.

4. Lymphocytes. The number of these cells was very small. Difficulty was encountered in separating small lymphocytes from the small myeloblasts which they resemble closely. 8.3 per cent were present.

5. Large mononuclears. Under this heading were grouped all cells larger than a polymorphonuclear leukocyte having abundant protoplasm and an oval, pale staining nucleus, poor in chromatin. Here again it was not easy to be positive that some of these were not myeloblasts. 15. per cent of these cells were found on the first examination.

6. Transitional cells. The transitional cell of normal blood was not present in any of the smears examined. A few cells with slightly irregular nuclei, but not typically indented, were classed under the heading of large mononuclears.

September 20, 1914.
Differential count (Wright's stain)... 300 cells counted
White blood cells..................26,800 per cubic millimeter

	Percentage	*Number per cu. mm.*
Polymorphonuclear neutrophiles..... (unripe, faint granules)	0.3	(80)
Polymorphonuclear eosinophiles.....	0	(0)
Polymorphonuclear basophiles.......	0	(0)
Lymphocytes......................	8.3	(2,224)
Large mononuclears................	15.0	(4,020)
Transitionals.....................	0	(0)
Myelocytes—neutrophilic...........	39.3	(10,532)
Myelocytes—eosinophilic...........	0.7	(188)
Myelocytes—basophilic.............	4.0	(1,072)
Premyelocytes and myeloblasts......	32.4	(8,683)
Normoblasts......................	occasionally seen	

Differential counts made on August 22, 23, 24, 26 and 30th showed approximately the same percentages. While the relative values increased but slowly, the absolute values rose rapidly.

September 5, 1914.
Differential count (Wright's stain)... 800 cells counted
White blood cells.................150,000 per cubic millimeter

	Percentage	*Number per cu. mm.*
Polymorphonuclear neutrophiles.....	0	(0)
Polymorphonuclear eosinophiles.....	0	(0)
Polymorphonuclear basophiles.......	0	(0)
Lymphocytes......................	9.5	(14,250)
Large mononuclears................	17.0	(25,500)
Transitionals......................	0	(0)
Myelocytes—neutrophilic...........	33.6	(50,400)
Myelocytes—eosinophilic...........	0.6	(900)
Myelocytes—basophilic.............	1.8	(2,700)
Premyelocytes and myeloblasts......	37.5	(56,250)
Normoblasts......................	35.0	Seen in counting 800 cells.

The subsequent blood counts per cubic millimeter are given below:

	White blood cells	*Red blood cells*	*Hemoglobin*
August 20...........	26,800	3,200,000	60 per cent
" 22...........	28,000	....	....
" 23...........	28,200	....	....
" 24...........	70,000	2,592,000	....
" 25...........	60,000	....	....
" 26...........	62,000	....	....
" 27...........	58,800	....	....
" 28...........	68,000	....	....
" 29...........	70,000	....	....
" 30...........	80,000	....	....
September 5.........	150,000	2,000,000	20 per cent

The blood picture outlined conformed with that of acute myelogenous leukaemia. It was worthy of mention that the picture differed in certain noticeable details from that described by Ehrlich as characteristic of chronic myeloid leukaemia. The relative and absolute increase in eosinophilic and basophilic cells upon which he laid emphasis was absent. A remarkable variation from the normal was present among all of the cells. This was especially striking in the prestages of the myelocytes—the premyelocytes and myeloblasts. The presence of these intermediate forms is of considerable diagnostic worth in acute myelogenous leukaemia. As regards the total number of white blood cells, the first count of 26,800 per cubic millimeter was within the limits of a sharp leukocytosis. The count then rose rapidly to 150,000 per cubic millimeter, but failed to reach the high figures so characteristic of the chronic myeloid cases. There were no changes of special diagnostic significance in the red cells. Nucleated red blood cells were present in limited numbers. The hemoglobin fell rapidly, giving a low color index.

In summarizing the results of the blood examination, it was seen that we were dealing with an acute myelogenous leukaemia, accompanied by a rapidly progressing anaemia. During a period of fifteen days' observation in the hospital, the red count fell from 3,200,000 to 2,000,000 per cubic millimeter; the hemoglobin dropped from 60 to 20 per cent, and the white count increased from 26,800 to 150,000 per cubic millimeter. There was a gradual relative increase in the myeloblasts, as well as a great actual increase. Only an occasional nucleated red cell was seen.

The autopsy was performed by Dr. Ellis Kellert, of the Bender Hygienic Laboratory. The report is as follows:

September 6, 1914. Mrs. B. Age, 58 years. Four hours post-mortem. Body length, 167 centimeters.

The body is that of a well-developed and well-nourished white female adult. The skin is normal in appearance. There is no post-mortem lividity. Rigor mortis is absent. Body heat is present. The pupils are midwide and equal. There is no general glandular enlargement and no oedema of the extremities.

Peritoneal cavity.—The abdominal wall contains a somewhat excessive amount of bright yellow-colored fat. The recti muscles are well developed. The peritoneal surfaces are normally smooth, moist and glistening. The entire intestinal tract is moderately distended with gas. The spleen does not extend below the costal margin. The lower edge of the liver is found eight centimeters below the costal margin in the midclavicular line. The appendix is approximately fifteen centimeters in length and lies retrocaecal. It has a mesentery throughout its entire extent. There is no enlargement of the mesenteric lymph nodes. The voluntary muscles are bright red in color.

Pleural cavities.—Both pleural cavities contain a small amount of turbid, reddish fluid. The surfaces are smooth, but show numerous adhesions about the apices of the lungs.

Pericardial cavity.—On opening the pericardium, a large amount of serous, slightly turbid fluid escapes. Both the visceral and parietal pericardium have a granular, roughened appearance which becomes more marked on exposure to air.

Heart.—Weight 448 grams. The right heart is dilated and filled with a large reddish, jelly-like clot. The ventricles contain a smaller amount of similar blood clot. The myocardium is dull red in color and of firm consistency. The endocardium is normal throughout, but in the region of the aortic valves there are a few yellowish raised firm areas. The aortic valve measures eight centimeters, the mitral eleven centimeters and the tricuspid thirteen centimeters.

Lungs.—Both lungs show a moderate amount of anthracosis. The apices are covered by numerous firm adhesions, but there is no evidence of puckering or nodules. The lower lobes are slightly distended, crepitation is diminished, and on cut section a large amount of serous turbid fluid escapes. The glands at the lung roots are normal in appearance.

Spleen.—Weight 384 grams. Its lower edge does not extend below the costal margin. It is reddish-brown in color, stippled with many greyish white areas. The surface, though smooth, is somewhat uneven. It is firm in consistence and cut section is pale brownish-red in color. Surface scrapings are moderate in amount.

Gastro-intestinal tract.—The gastro-intestinal tract throughout is normal in appearance. There is no hypertrophy of the solitary lymph nodes, or Peyer's patches.

Liver.—Weight 2,560 grams. It is of firm consistence. The surface is smooth and pale brown in color. Cut section is pale brown and the hepatic lobules are quite distinct. The gall-bladder and lymph nodes are negative.

Pancreas.—It is of normal size, shape and consistence.

Kidneys.—Combined weight is 466 grams. They are moderately enlarged and pale greyish-brown in color. The capsules strip readily, but carry with them cortical tissue and leave a markedly roughened surface. The cortex is two to five millimeters in thickness, and the pyramids are distinct. The pelves are negative.

Adrenals.—Not remarkable.

Bladder.—It contains approximately 500 ccs. of urine. The mucosa is normal in appearance. The ureters are negative.

Genital organs.—The uterus is small and normal in appearance. The adnexa are negative.

The breasts appear to contain a somewhat excessive amount of fibrous tissue.

Aorta.—The intima shows various sized yellowish-grey, raised firm areas. The lymph nodes surrounding the abdominal aorta are somewhat enlarged, of firm consistence, and pale greyish-brown in color.

Bone marrow.—The marrow of the femur, in its upper and middle thirds, is pale brownish-red in color and somewhat firmer than normal. An occasional minute greyish-white area is seen.

Organs of neck.—Not done.

Head.—Not done.

Anatomical diagnosis:—

Myeloid leukaemia.
Acute dilatation of the heart.
Acute fibrinous pericarditis.
Hydropericardium.
Arteriosclerosis.

No blood cultures were taken either during life or at autopsy.

To summarize the main points of the post-mortem examination:—

(1) The bone marrow showed hyperplasia, red marrow having displaced the fat marrow of the femur.

(2) The spleen, clinically not palpable, did not extend below the costal margin. Weight 384 grams. showed a slight enlargement. Benda[12]

finds average weight 200-400 grams, but never the huge spleens of chronic myeloid leukaemia.

(3) Lymph glands and Peyer's patches were negative on gross examination. A few mesenteric nodes were removed for histological study. This is to be contrasted with the large tumor formations of acute lymphatic leukaemia.

(4) The liver was moderately enlarged, weighing 2,560 grams.

(5) Special mention should be made of the entire absence of the manifold hemorrhages of the skin, pleura, peritoneum, etc., and the ulcerations of mucous membranes which are nearly always present. In exceptional cases hemorrhages have been missing. See Januskiewicz.[43]

The microscopic study was made on tissue fixed in Zenker's solution, imbedded in paraffin and stained with eosin-methylene blue. The findings were as follows:

Bone marrow (fig. 1b, 2b.) The marrow was very rich in cells, the increase being in the myeloid forms especially, although red cells were numerous. The former were large oval or polygonal cells with large round oval nuclei, staining with varying intensity. One or two nucleoli were frequently seen. The protoplasm of these cells was basophilic and without granules in most instances, but neutrophilic and eosinophilic granules were also found in cells with a neutrophilic protoplasm. This predominance of myeloblasts over neutrophilic and eosinophilic myelocytes is characteristic of acute myelogenous leukaemia. No mast cells were seen. Giant cells, nucleated red cells, normo- and megaloblasts were numerous. No lymphocytes were discoverable.

In addition fresh smears were made from the bone marrow and stained by Wright's method. These showed large mononuclear cells without granules predominating.

Spleen (fig. 3b, 4b.)—It was difficult to find any of the landmarks of normal spleen, so complete was the change in structure. Here and there was a collection of lymphoid cells irregularly grouped about an arteriole, the remnants of a compressed or atrophic splenic nodule. There was no hyperplasia of the "keim centrum" cells. The splenic pulp had undergone a myeloid transformation, the predominating cell resembled that found in the blood and bone marrow. Neutrophilic and eosinophilic myelocytes were numerous, but the majority of the cells consisted of the non-granular prestages of the myelocytes, the myeloblasts. Lying in between these cells were many small lymphocytes with dark nuclei and little or no protoplasm, in sharp contrast with the myeloid cells which presented large pale nuclei and abundant protoplasm. Nucleated red blood cells were present, especially in the neighborhood of the blood vessels. The connective tissue was somewhat increased.

Lymph gland (fig. 5b, 6b.)—Here again great distortion of the normal architecture was evident, although more of the lymphoid cells were found than in the case of the spleen. At the cortex the infiltration with myeloid cells was less dense than in the center of the gland, but nowhere could a well preserved follicle be discovered. The infiltrating cells were neutrophilic myelocytes, eosinophilic myelocytes, myeloblasts and nucleated red cells. The myeloblasts predominated.

Liver (fig. 7b, 8b.)—The capillaries between the strands of liver cells were filled with the same cells which had been demonstrated in the blood and other organs, and in addition there were occasionally portal areas where myeloid cells appeared in greater numbers. Compression of strands of the liver cells by myeloid infiltration outside of the capillaries was not present. The connective tissue was not increased. The liver cells contained many fat droplets and bright yellow pigment in some places.

Kidneys.—No characteristic change shown.

Very valuable confirmatory evidence of the nature of this case was obtained by the application of the Winkler[8] oxydase reaction. The principle of the reaction depends upon the fact that when aqueous solutions of alpha-naphthol and dimethylparaphenylendiamin are brought together in the presence of an oxidizing agent, a blue substance, known as " indolphenolblue " is formed. When the two solutions are applied to cells of myeloid origin, the oxidizing ferment of these cells sets free the reaction, indolphenolblue is synthesized, and is deposited in the cells containing the oxydase. Lymphoid cells and tissue do not have this power of forming indolphenolblue.

This point was brought out by Winkler[8] in 1907. Schultze[7] applied the test to tissues. Many other workers abroad have used the method, until to-day it is generally agreed that the indolphenolblue synthesis test affords a reliable means of differentiating myeloid and lymphoid cells. The work of Burgess,[44] Evans,[45] and Graham[46] in this country has stimulated interest in this field. The last named has recently published a new and simpler method which is superior to all others, in that it makes possible permanent preparations which can be mounted in balsam. Evans, working with the old method, reports the life of the oxydase stain as only a few minutes, after which the intensity fades. He was unable to obtain photomicrographs for this reason. Dunn,[47] however, had suggested previously, that sodium silicate or water glass could be used as a mounting fluid. Using this it was found possible to preserve mounted cover-slip preparations for several months. The photomicrograph (fig. 12) was taken from a preparation nearly a year old. In the study of the two cases reported here the methods for tissue as described by Schultze,[7] the method for blood as described by Evans,[45] and the method for tissues and blood as suggested by Graham[46] were used. The results were clean cut and helpful.

In the cases studied the method described by Graham gave the best results. The first two attempts made to apply the stain according to Winkler failed because satisfactory dimethylparaphenylendiamin could not be obtained. Graham has found it possible to leave out this expensive and easily deteriorating compound in his new staining method.

In case I, blood smears and bone marrow smears reacted negatively with preparations which had been kept for five months, before satisfactory reagents could be obtained for performing the test. It is known that blood smears lose the power to react positively after a few weeks (Evans).[45] The test applied to the tissue of this case gave positive results even two years and three months after the autopsy. This is in accord with the experience of others, that the ferment is preserved indefinitely in tissue kept in formalin.

Bone marrow, spleen and lymph gland all showed a dense infiltration with cells staining positively, while the liver (fig. 15) showed scattered clumps of such cells about central veins and in capillaries. Controls carried out simultaneously on normal tissue gave negative results.

Case II.—Patient Mr. F. B., age 19, cheesemaker. Was admitted January 10th, 1916, to the Albany Hospital. Complaint: pain in the jaw. The present illness began seven weeks ago with a sore throat, noticed especially in swallowing. His local physician made the diagnosis of acute tonsilitis. Symptoms subsided after four or five days. Soon after this he developed severe pain in a right lower molar tooth. Two teeth were later extracted, but the severity and constancy of the pain remained unchanged. Pain and swelling gradually increased but recently have extended down into the neck with great rapidity. Progressive weakness, fever, and pallor have been noted.

There was nothing of importance in the family or past history. The patient had always been a strong healthy, country boy.

Physical examination:

Patient was a young male, well developed and nourished. His expression was anxious, and there was a marked palor of the skin and mucous membranes. Temperature 101, pulse 120, respiration 22. Eyes—not prominent, pupils reacted to light and accommodation. The conjunctivae were pale but free from jaundice. Ears, negative.

The right side of the face was markedly distorted by a diffuse swelling, extending from the level of the malar bone down into the neck to a point parallel to the cricoid cartilage. Horizontally it extended from 2 centimeters below and behind the angle of the right jaw, to 5 centimeters beyond the median line. The mass was firm, did not fluctuate, and was very tender.

The lips were pale, swollen, fissured and covered with blood crusts. The right angle of the mouth was slightly drawn downward. Patient was able to open mouth only a short distance, and the tongue could not be protruded beyond the lips. The breath was fetid. The gums were tender, spongy, retracted, and pus could be squeezed from them.

There was a black necrotic area reaching from the first lower right molar tooth and extending forward to the bicuspids and involving the floor of the mouth beneath the tongue. The gangrenous tissue was readily picked out with forceps, and had a very foul odor. The alveolar process was visible at the posterior portion of this area.

Chest—Symmetrical, expansion free and equal. Resonant throughout, no tubular breathing or rales. Heart—Dullness not increased, sounds clear except for soft hemic murmur. Glands—axillary and inguinal are palpable. Abdomen—Full, rounded, tympanitic note. No tenderness or rigidity. Liver—Dullness from fifth interspace to costal margin, not palpable. Spleen—Dullness from sixth interspace to a point four fingers breadth below costal border. Edge easily palpable at a point near the umbilicus. Genitals—Normal. Rectal examination not made.

Urine—Single specimen, amber, clear, acid, no albumin, no sugar. Microscopic, no casts, red cells or pus cells.

Smears from throat show a few gram positive bacilli and cocci. No spirochaetes or spirilla.

January 16, 1916—Blood culture—sterile.

January 18, 1916—Wassermann reaction—negative.

The patient grew rapidly worse, the temperature followed the septic type varying from 98 degrees F. to 102.8 degrees F. Pulse 90 to 130, respiration 22 to 30. Exitus on January 18, 1916, eight days after admission, and eight weeks after tonsilitis, the first sign of illness.

January 11th—White blood cells 20,000 per cubic millimeter.

January 12th—Red blod cells 1,500,000 per cubic millimeter.
White blood cells 137,000 per cubic millimeter.
Hemoglobin 35 per cent (Sahli).

January 14th—White blood cells 168,000 per cubic millimeter.

January 16th—White blood cells 268,000 per cubic millimeter.
Hemoglobin 20 per cent (Sahli).

Blood films (fig. 10) stained by Wright's stain were studied. The picture here was that of a large-cell leukaemia. The predominating cell was the size of a large lymphocyte or larger, with oval, azure staining nucleus and basophilic protoplasm in which a varying number of granules could be found. It was evident therefore, that the majority of the cells were the prestages of the myelocyte. Difficulty was met with in classifying the cells, but in counting 500, their distribution was found to be as follows:

January 16, 1916	*Percentage*	*Number per cu. mm.*
Polymorphonuclear neutrophiles (faint granules). (Unripe).....	8.0	(21,440)
Polymorphonuclear eosinophiles.	0.3	(804)
Polymorphonuclear basophiles ..	0	(0)
Lymphocytes..................	5.0	(1,340)
Large mononuclears............	0	(0)
Transitionals..................	0	(0)
Myelocytes—neutrophilic.......	5.6	(15,008)
Myelocytes—eosinophilic.......	0.6	(1,608)
Myelocytes—basophilic.........	1.3	(3,484)
Premyelocytes and myeloblasts..	79.0	(211,720)
Normoblasts..................	23.0	Seen in counting 500 cells
Megaloblasts..................	6.0	" " " "

Unfortunately, it was impossible to obtain permission for a post mortem examination, so that histological proof was lacking in this case. The oxydase test, however, gave positive results with blood smears, the reaction being very widespread, affecting nearly all the cells and failed only in occasional mononuclear cells, which were either lymphocytes or myeloblasts too young to take the stain.

The Literature

There has been no complete review of the reported cases since 1910, when Wolfer[48] collected a series of twenty, but not all of these were clearly defined instances of acute myelogenous leukaemia.

In view of the fact that many cases reported as acute myelogenous leukaemia rest on doubtful or insufficient evidence, a critical and comprehensive study of all the cases in the literature has been undertaken. The cases have been divided into three groups: (1) proven cases of acute myelogenous leukaemia (supported by autopsy and histological study); (2) probable cases, lacking complete and indisputable proof, afforded by autopsy and microscopic examination of the various organs; (3) doubtful or unproven cases.

The criteria of judgment have been those already mentioned, and are as follows: (1) aleukaemic or subleukaemic stage; (2) short duration; (3) characteristic blood picture; (4) myeloid transformation of spleen, liver and lymph glands, with hyperplasia of the marrow; (5) oxydase reaction.

The aleukaemic or subleukaemic stage has not been insisted on for all cases in group 1; providing the duration was short. Upon this basis under group (1) the following twenty-eight cases may be listed:

Acuna: *Arch. d. Med. d. Enfants,* 1906, IX, 321.

Duration, two and one-half months. R.B.C. 2.500.000, W.B.C. 90,000. Myelo. (with and without granulation) 50, Pmn. 12, Eos. 1, Lympho. 8, L.M. 2, Metamyelocytes 24. Autopsy showed typical picture with myeloid transformation on histological examination. A typical case.

Benjamin: *Folia Haemat.* 1908, VI, 152.

Duration nine weeks. R.B.C. 4.100,000. Hb. 65. W.B.C. 22,400. Pmn. 8, Eos. 2, Lympho. 46.8, Neut. myelo. 16.5, Myeloblasts 35.5. Autopsy. Histological evidence of myeloid infiltration. Typical case.

Duration, three weeks. Blood—R.B.C. 1,090,000. Hb. 45%. W.B.C. 58,600. Pmn. 28.8. Eos. 11.5. "Large lymphocytes" 3.7. Small lymphocytes 6.2. Myelocytes 49.6. Autopsy: chloroma, pneumonia. Histology: chloroma cells (myeloblast), spleen, liver, bone marrow and lymph gland. Oxydase positive. Blood exam. week before death showed Pmn. 12.5. Pm. E. 8.5. Unripe polys. 9. Myeloblasts 36.5. Premyelocytes 20. Myelo. 8. Small Lympho. 7.

Butterfield: *Deutsch. Archiv. f. klin. Med.,* 1908, Bd. 92, S. 336.

Case 2. Duration five weeks. R.B.C. 1,400,000. Hb. 20. W.B.C. 45,000. Pmn. 15. Eos. 0.8, Lympho. 12, Neut. myelo. 5.6, myeloblasts 49, Mononuclears with granules 10%. Characteristic "atypie" of blood picture. Autopsy and histological study show myeloid transformation of spleen, liver, lymph glands and marrow. An excellent case.

Dock: *Med. News,* 1904, LXXXV, 84.

Duration, one month. R.B.C. 509,600. Hb. 15. W.B.C. 35,669. Pmn. 7.4. Eos. 0.8, Small lympho. 6.7, Large lympho. 3.9. Myelocytes 0.4, "Marrow lymphocytes" (myeloblasts) 79.9. Characteristic "atypie" of cells. Autopsy and histology typical of acute myelogenous leukaemia. Green deposits in bodies of vertebrae. (chloroma).

Goodall: *Edinburgh Med. Jour.,* 1912, VIII, 500.

Duration, three weeks. R.B.C. 1,100,000. Hb. 22. W.B.C. 75,000.

Pmn. 26, Large lympho. 14.5. Small lympho. 9.75, Eos. 1.5, Neut. Myelo. 46, Eos. myelo. 2, Baso. 0.25. Atypie of cells. Some of cells classed as lymphocytes probably are myeloblasts, author states. Autopsy and histologic study typical. Oxydase reaction not done. A typical case.

Hertz u. Kino: *Wien. klin. Wochnschr.,* 1910, Bd. XXIII, S. 395.

Duration, twelve days, perhaps longer. R.B.C. 2,500,000. Hb. 27. W.B.C. 80,000,—90% myeloblasts, a few lymphocytes and polynuclears, occasional eosinophile and basophile and a rare neutrophilic myelocyte and premyelocyte. Histological study shows typical myeloid transformation.

Hirschfeld und Alexander: *Berlin klin. Wochnschr.,* 1902, Bd. XXXIX, S. 231.

Duration, two months. Blood observed before onset. R.B.C. 2,000,000. Hb. 35. W.B.C. normal. Five weeks later R.B.C. 1,125,000. Hb. 10. W.B.C. 64,000. Pmn. 63, Lympho. 7.4, Large mono. 19.2. Myelocytes 5-8.6. Atypie present. Autopsy and histology typical. This case above criticism, aleukaemic state seen.

Isaac u. Cobliner: *Fol. Haemat.,* 1910, X, 459.

Case 1. Duration short. R.B.C. 5,300,000. Hb. 65. W.B.C. 140,000. Pmn. and Metamyelo. 13.1, Eos. 1.4, Middle sized and small "lymphocytes" (small myeloblasts) 71.7, Large lympho. 6.6, Large mono. 3.2, Neut. myelo. 3, Eos. myelo. 1. Autopsy and histology typical. Oxydase reaction positive on blood and tissue. An undoubted case.

Isaac u. Cobliner: same reference.

Case 2. Duration, four weeks. R.B.C. 2,856,000. Hb. 20. W.B.C. 33.000. Pmn. 5.7, Large lympho. 8.1, Small lympho. (myeloblasts) 81.8, Myelo. 1.6, Eos. myelo. 0.8, Premyelo. 1-6. Autopsy and histology typical. Oxydase tests positive on blood and tissues.

Kahn, F.: *Frankf. zeitschr. f. path.,* 1911, Bd. 9, S. 258.

Duration, two months. Blood—not examined until after death; mostly myeloblasts. Histology; typical myeloid transformation. Apparent case. Not well studied clinically.

Lazarus and Fleischmann: *Deutsch. Med. Wochnschr.,* 1905, XXXI, 1209.

Duration, one month. R.B.C. 1,600,000. Hb. 55. W.B.C. 91,000-191,000-288,000. Pmn. 1.1, Eos. 0.8, Lympho. 6, Large mono. 61, Neut. myelo. 30. Many cells hard to classify. Autopsy and histology typical. A typical case.

Marchand: *Münch., Med. Wochnschr.,* 1911, Bd. 58, S. 924.

Duration, five weeks, observed twenty-four hours. Blood showed marked decrease of R.B.C. W.B.C. 250,000, and a great increase in myeloblasts. Atypie present. Histology typical. Oxydase test on blood and tissues positive. An undoubted case, some details lacking owing to short observation.

Meyer, E. u. Heineke: *Deutsch. Archiv. f. klin. Med.*, 1907, Bd. 88, S. 453.

Duration, three months. R.B.C. 1,400,000. Hb. 24. W.B.C. 45,000. Myeloblasts 30-40, Myelocytes 10. "Atypie" present. Guaiac reaction positive on blood. Histology typical. Differential count not attempted because of "atypie."

Meyer, O.: *Frankfurt. Zeitschr. f. Path.*, 1914, v. 40.

Case 2. Duration, three to four months. R. B. C. 1,210,000. Hb. 32. W.B.C. 5,000. Myelocytes numerous—50% "lymphocytes." Clinical diagnosis. Pernicious Anaemia. Histology typical. Oxydase positive on tissue. Meager clinical data.

Michaelis: *Zeitschr. f. klin. Med.*, 1902 vol. XLV, p. 87. Quoted from Billings and Capps.

Duration, fifteen weeks. Blood—first examination ten weeks after beginning. R.B.C. 3,450,000. W.B.C. 16,000. Hb. 40 per cent. "Large Mononuclears" 56 per cent. Myelocytes 7.2 per cent. Small mono. 20. Polys. 16. Eos. 0.4. Mast cells 0.4. Atypie present. Histology: typical changes in marrow, lymph glands and spleen.

Naegeli, Blutkrankheiten u. Blutdiag: Leipzig, 1912, S. 531. (*Zweite Auflage.*)

Duration, four weeks. R.B.C. 2,100,000. Hb. 55. W.B.C. 20,400. Pmn. 33.2, Eos. 17.6, Lympho. 6.6, Neut. myelo. 10.3, Eos. myelo. 7.6, Myeloblasts 15, Mast cells 4.3, Transit. 5.3. Later, W.B.C. 125,000. Myelo. 9, Myeloblasts 61.2, Mast cells 0. Many nucleated red cells. Autopsy and histology typical. An excellent report. Seen in aleukaemic stage.

Pappenheim u. H. Hirschfeld: *Folia Haematolog*, 1906, Bd. 5, S. 347.

Case 1. Duration, six weeks. R.B.C. 890,000. Hb. 20. W.B.C. 235,000. Myeloblasts predominate. Autopsy and histologic examination typical, the latter showing myeloid infiltration of organs. Typical case.

Peters: *Münch. Med. Wochnschr.*, 1909, Bd. 56, S. 1478.

Duration, twenty-five days. R.B.C. 2,700,000. Hb. 35. W.B.C. 275,000. Pmn. 1, Eos. 3, Myeloblasts 96. Autopsy and histology typical, except liver and lymph glands which show no change. Oxydase test positive on blood and tissues. Emphasized value of this reaction in acute leukaemia.

Schmidt, R: *Mitt. der Gesell. f. inn. Med. und Kinderheilkunde*, Wien, 1909, Bd. 8, S. 91.

Case 1. Duration, one month. R.B.C. 2,500,000. Hb. 30. W.B.C. 30,000. Pmn. 1.2, Lympho. 5.8, Eos. 0.1, Large Mono. (atypical) 92.8. No typical myelocytes. Autopsy made. Oxydase test positive on liver, bone marrow and spleen.

Schmidt, R.: *Mitt. der Gesell. f. inn. Med. und Kinderheilkunde,* Wien, 1909, Bd. 8, S. 91.

Case 2. Duration, slightly over one month. R.B.C. 3,500,000. Hb. 80. W.B.C. 70,400. Pmn. 6.6 (atypical), Lympho. 2.4, Atypical large mononuclear cells 91. Autopsy and histology typical. Oxydase reaction positive on liver, bone marrow, lymph glands. Spleen gave partly negative result.

Scott: *Lancet,* 1907, Vol. 173, p. 1527.

Duration, three to four months. R.B.C. 789,000. Hb. 15. W.B.C. 42,000. Large lymphocytes (myeloblasts) 84.2, Neut. myelo. 6.9, Pmn. 4.3, Eos. 3, Mast cells 7. Autopsy and histologic examination show infiltration of liver, spleen and marrow with myeloid cells. Oxydase test not done. A typical case.

Thompson and Ewing: *Med. Record,* 1898, LIII, 333.

Duration, symptoms six weeks, below par one year, death eleven days after first examination. R.B.C. 1,290,000. Hb. 20. W.B.C. not counted, estimated at 50,000. Pmn. 55, Myelo. 12, Mono. 33. Granules of myelocytes often indistinct. Granules of polys. deficient. Autopsy and histology typical. An undoubted case.

Verderame: *Virch. Arch.,* 1910, Bd. 200, S. 367.

Duration, five weeks. R.B.C. 3,700,000. Hb. 40. W.B.C. 240,000. Myeloblasts predominate, myelocytes are present. Autopsy and histology are typical. A good report.

Weber, F. P.: *Virch. Archiv. f. Path. Anat. u. Physiol.,* 1903, Bd. 174, S. 324.

Duration, eight weeks, under observation only one day. Blood not examined during life. Pmn. 0.2, Eos. 1.1, Lympho. 36.4, Large lympho. 56.3, Myelo. 2.4, Eos. myelo. 3.6. Autopsy and histology typical. Was not recognized by author, who reported case as acute lymphatic leukaemia.

Wechselman u. Hirschfeld: *Zeitschr. f. klin. Med.,* 1908, Bd. 66, S. 349.

Duration, four months. R.B.C. 4,400,000. Hb. 70. W.B.C. 14,600. Pmn. 22, Eos. 4.1, Basophiles 1, Lympho. 16, Myeloblasts 60. Atypie of cells. Autopsy and histology typical.

Wynhausen: *Deutsch. Archiv. f. klin. Med.,* 1908, Bd. 92, S. 497.

Duration, five months. First examination: R.B.C. 3,220,000. Hb. 70. W.B.C. 7,000. Pmn. 34, Lympho. 30, Myeloblasts 36. Second examination: R.B.C. 1,910,000. Hb. 23. W.B.C. 87,300. Pmn. 4, Lympho. 4.5, Myeloblasts 75.5, Myelocytes 16. Atypie present. Autopsy and histology confirmatory. Oxydase reaction not tried. A good report, aleukaemic stage observed.

Ziegler und Jochmann: *Deutsch. Med. Wochnschr.,* 1907, XXXIII, 749.

Duration, eighteen days. R.B.C. 1,648,000. Hb. 50. W.B.C. 18,200. Next day, R.B.C. 1,752,000. Hb. 35. W.B.C. 240,000. Pmn. 16, Lympho. 8.5. Transit. 8, Eos. 1, myelocytes 65. Autopsy and histology typical. Subleukaemic.

Group (2) contains the probable cases, 27 in number, in which histologic proof is lacking.

Barker, Baetjer, and Miller: *Southern Medical Journal,* 1916, IX, 107. Four cases with blood picture, and clinical course of acute myelogenous leukaemia. Full description of cases and histologic study to be published later. Must be considered typical cases, but listed as probable cases in absence of details.

Beifeld: *Arch. Diagn.* N. Y., 1915, VIII, 244.
Duration, four months. Blood—R.B.C. 952,000. W.B.C. 24,850. Hb. 12%. W.B.C. later 82,400. Myeloblasts 62.6. Premyelo. 9.9. Myelocytes 0.5. Pmn. 21.1. Lympho. 5.8. No autopsy, no histology. Oxydase positive on blood. Probable case, autopsy lacking.

Billings and Capps: *Amer. Jour. Med. Sci.,* 1903, CXXVI, 375.
Duration, two months. Normal blood at beginning. At fourth week: R.B.C. 2,000,000. Hb. 40. W.B.C. 540,000. Small mono. 1.6, Large mono. 22, Pmn. 21.2, Eos. 0.4, Baso. 0.4, Neut. myelocytes 53.6, Eos. myelo. 0.8. Characteristic atypie. No autopsy. Typical case, carefully observed, lacks histological proof. Aleukaemic stage observed.

Butterfield: *Deutsch. Archiv. f. klin. Med.,* 1908, Bd. 92, S. 336.
Case 1. Duration, five to six months. R.B.C. 1,650,000. Hb. 28. W.B.C. 217,600. Neut. myelo. and Pmn. 17.5, Lympho. 1.4, Eos. 0.6, Eos. myelo. 0.5, Myeloblasts 79.3. No autopsy. Blood picture typical. Duration longer than the average acute case, white count high. Probable acute myelogenous leukaemia.

Ewing: *Clinical Pathology of the Blood,* 1901, 212.
Duration, short. No examination of blood until after death. W.B.C. 30,000. Pmn. 6, Myelocytes 33, Mononuclears (mostly small), 61. Meager description of autopsy and histologic findings. Probable case.

Fowler: *International Clinics,* 1903, Ser. 13, VIII, 217.
R.B.C. 2,200,000. W.B.C. 240,000. Pmn. 16-22, Lympho. 7-13, Large lympho. 35-56, Myelocytes 12.1-27. Atypie present. No autopsy. Probable case.

Gordinier: *Johns Hopkins Hosp. Bul.,* 1904, XV, 314.
Duration, thirteen weeks. R.B.C. 1,500,000. Hb. 28. W.B.C. 260,000. Pmn. 5.8, Eos. 0.2, Mast cells 0.3, Transitionals 1.8, Large mono. 24.4, Small mono. 2, Neut. myelo. 61.4, Eos. myelo. 4.1. White blood cells gave characteristic difficulty in classification. No autopsy. White count high. Probable case.

Hockhaus: *Münch. Med. Wochnschr.,* 1914, Bd. 61, S. 276.
Duration, short, not definitely stated. R.B.C. 4,500,000. W.B.C. 19,350. Hb. 83-90%. Majority of white cells were myeloblasts. No autopsy. Probable case.

Knox: *Arch. Ped.,* N. Y., 1915, XXXII, 392.

Duration, seventeen days. Blood—W.B.C. 200,000. Pmn. 47. Eos. 4.2. Lympho. 28.6. Myelo. 19.8. Myeloblasts 0.4. No autopsy. Acute myeloid leukaemia. Blood picture resembles chronic myelogenous leukaemia with high percentage of lymphocytes.

Masing: *Deutsch Archiv. f. klin. Med.,* 1908, Bd. 94, S. 377.

Duration, five to six months. R.B.C. 1,060,000. Hb. 20. W.B.C. 24,800. Pmn. 36.6, Eos. 0.2, Mast cells 0.2, Lympho. 9.4, Transit. 1.7, Myeloblasts 30.4, Myelo. 21.5. Histology typical. Author called case instance of mixed cell leukaemia.

Panton and Tidy: *Lancet,* 1912, CLXXXII, 1328.

Case 1. Duration, two months. R.B.C. 837,000. Hb. 10. W.B.C. 228,000. Pmn. 1, Eos. 0.6, Small lympho. 14, Large lympho. 3.6, Large hyaline cells 68.8, Granular large hyaline cells 4.2, Neut. myelo. 0.8, Eos. myelo. 3.6, Myeloblasts 3.2. Autopsy showed grey cellular marrow, enlarged and infiltrated spleen, liver and lymph glands. No histology, no oxydase test. Probable case.

Panton and Tidy: *Lancet,* 1912, CLXXXII, 1328.

Case 2. Duration, four months. R.B.C. 2,240,000. Hb. 40. W.B.C. 160,000. Pmn. 4, Eos. 0.6, Small lympho. 8.4, Large lympho 0.6, Large hyaline cells 79, Myelo. 3.4, Eos. Myelo. 0.4, Myeloblasts 3.2. Autopsy showed cellular marrow, enlarged and infiltrated spleen, liver and lymph glands. No histology, no oxydase.

Panton and Tidy: *Lancet,* 1912, CLXXXII, 1328.

Case 3. Duration, six months. R.B.C. 1,350,000. Hb. 20. W.B.C. 1,600. Pmn. 34.4, Eos. 1, Small lympho. 16.2, Large lympho. 3.8, Large hyaline 0.4, Basophiles 17.6, Neut. myelo. 1, Eos. myelo. 1.4, Baso. myelo. 0.6, Myeloblasts 21.4. Autopsy showed greenish grey marrow. Spleen and lymph glands slightly enlarged and infiltrated.

Panton and Tidy: *Lancet,* 1912, CLXXXII, 1328.

Case 4. Duration, six months—two months acutely ill. R.B.C. 1,000,000. Hb. 15. W.B.C. 30,000. Pmn. 41, Eos. 0.6, Small lympho. 10.8, Large lympho. 11.8, Large hyaline cells 7.4, Mast cells 0.6, Finely granular baso. 0.2, Myelo. 21, Eos. myelo. 0.2, Transit. myelo. 6.4. Autopsy showed gray cellular marrow. Spleen, liver and lymph glands infiltrated. No histology.

Panton and Tidy: *Folia Haemat.,* 1913, XVII, 398.

Case 3. Duration, five months. R.B.C. 3,700,000-1,930,000-1,000,000. Hb: 60-20-10. W.B.C. 1,400-13,800-2,000. Myeloblasts 48.5-98-94%. Very few erythroblasts. No report of autopsy except that spleen and lymph glands were slightly enlarged. Probable case.

Panton and Tidy: *Folia Haemat.,* 1913, XVII, 398.

Case 4. Duration, two months. R.B.C. 1,312,000. Hb. 15. W.B.C. 8,000. Pmn. 12.5, Lympho. 12.5, Myelo. 1.5, Myeloblasts

73.5, occasional nucleated red cell. No report given of autopsy. Probable case. Authors consider this case typical of acute leukaemia—a form rare in most communities. They believe it to be more common in the Whitechapel district of London than in many other places. The authors state that they have seen six similar cases during the year, which they admit is above the average.

Panton and Tidy: *Folia Haemat.*, 1913, XVII, 398.

Case 7. Duration, two months. R.B.C. 1,300,000. Hb. 15. W.B.C. 48,000. Pmn. 9.4, Small lympho. 9.8, Large lympho. 0.2, Myelocytes 6, Hyalines 61.6, Myeloblasts 13. No autopsy. Probable case.

Ross: *Lancet*, 1916, CXCI, 940.

Case 1. Duration, three months. June 30, Blood—R.B.C. 2,237,000. Hb. 30. W.B.C. 6,900. Differential count 300 cells. Myeloblasts 75 per cent. Lympho. 23.3. Eos. 1. Pmn. 1.3. July 2, R.B.C. 1,675,900. Hb. 20. W.B.C. 2,200. Differential count 200 cells. Myeloblasts 58.5. Pmn. 5. S.L. 36. Mast cells 0.5. Tissue taken for histological study not described here. Bone marrow smear—over 90 per cent myeloblasts.

Ross: same reference.

Case 2. Duration, one month. Blood—R.B.C. 1,800,000. Hb. 28. W.B.C. 17,200. Differential count 200 cells. Myeloblasts 42.5, later 81. Small lympho. 33. L.L. 5. Pmn. 18.5. Transit. 1.5. Eos. 0.5. Some of the myeloblasts show a few granules. No autopsy.

Ross: same reference.

Case 3. Duration, four weeks. Blood—R.B.C. 2,650,000. Hb. 30. W.B.C. 1,132. Differential count 50 cells. Myeloblasts 86. S.L. 10. Pmn. 2. Neut. myelo. 2. Post mortem. No hist. report here, tissue taken for sections. Marrow 84.5 per cent myeloblasts.

Sabel and Satterlee: *New York Med. Jour.*, 1907, 85, 1130.

Duration, ten weeks. R.B.C. 1,500,000. Hb. 15. W.B.C. 120,000. Pmn. 9, Large lympho (myeloblasts?) 78, Small lympho. 9, Trans. 3, Myelo. 1. No autopsy, no oxydase.

Schultze, W. H.: *Ziegler's Beiträge*, 1906, XXXIX, 252.

Duration: uncertain, acute symptoms nine days. Blood—W.B.C. 560,000. Large percentage of myeloblasts, very few typical lymphocytes, no polys. Histological findings characteristic. White count rather high, duration uncertain. Probable case.

Steffler: *Deutsch. Archiv. f. klin. Med.*, 1912, Bd. 106, S. 309.

Case 2. Duration, four months. R.B.C. 1,682,000. W.B.C. 758,000. Pmn. 33, Large mono. and Myeloblasts 49.6, Lympho. 1, Mono. 0.4, Mast cells 0.6, Eos. myelo. 0.8, Neut. myelo. 14.2. Atypie present. Autopsy showed a large spleen. Histologic examination revealed myeloid transformation of spleen, liver, lymph glands and bone marrow. Oxydase test positive on the blood. Probable case. Exceptional to have so high a white count and so large a spleen. Duration on upper limit. Observed only thirty-six hours. Not seen in subleukaemic or aleukaemic stage.

Stone and Fay: *Med. Record,* 1914, LXXXVI, 923.
Duration, thirty-nine days. Blood—R.B.C. 2,480,000. Hb. 40. W.B.C. 64,000. Pmn. 20. Transit. 8. Lympho. 7. Large mono. 23. Myelocytes 42. Autopsy performed. Histology, report to be published later. Oxydase not tried. A probable case.

Group 3 contains the doubtful cases numbering 18.

Arneth und Leube: *Deutsch Archiv. f. klin. Med.,* 1901, Bd. 69, S. 331.
Duration, seventeen days. R.B.C. 256,000. Hb. 10%. W.B.C. 10,600. Pmn. 43.9, Eos. 0.2, L. M. & T. 2.4, Lympho. 40.2, Neut. myelo. 13.0, Eos. myelo. 0.6. Typical cell variation described. No autopsy. Doubtful case.

Bauermeister: *Berl. klin. Wochenschr.,* 1909, Bd. 46, S. 1115.
Duration, six weeks. No blood counts. Smear described as acute myelogenous leukaemia. No autopsy. Incomplete, doubtful.

Bingel u. Betge: *Frank. Zeitschr. f. path. Anat.,* 1910, IV, 87.
Duration, six to seven months of chronic symptoms, thirty-four days acutely ill. R.B.C. 3,000,000. Hb. 60. W.B.C. 44,000. Pmn. 3.5, Lympho. 13, Myeloblasts and transition forms 82. Autopsy and histological proof, with positive oxydase test on blood and tissues. A complete report. Long duration makes it a probable acute exacerbation of a chronic case.

Emerson: *Johns Hopkins Hosp. Bul.,* XVIII, 71.
Duration, three weeks. R.B.C. 4,600,000. Hb. 95. W.B.C. 147,000. (Severe diarrhea, concentration of blood.) No differential counts. Blood could not be stained. Histologic study showed cellular marrow, indifferent cell, hyperplasia of lymph gland. Spleen and liver infiltrated with mononuclear cells. Doubtful case.

Grawitz: *Klin. Path. des Blutes III Aufl.,* 1902, S. 218.
Quoted from Naegeli. Duration, fourteen days. W.B.C. 190,000. Myelo. 60, Eos. myelo. 10, S.M. 5, L.M. 15. No atypie. Beginning not observed. No autopsy. "As acute leukaemia doubtful," Naegeli.

Kerchensteiner: *Münch. Med. Wochnschr.,* 1905, Bd. 52, S. 991.
Duration, three weeks. R.B.C. 570,000. Hb. 18. W.B.C. 6,700. Pmn 77.5, Eos. 0.3, Lympho. 10, Large mono. 4. Autopsy showed myeloid change of spleen and bone marrow. Probable acute anaemia with myeloid change.

Klein: *Folia Haemat.,* 1910, X, 475. (Reference from Naegeli.)
Duration, six months. W.B.C. 400,000. Massive preponderance of myeloblasts. Oxydase positive. Autopsy and histology typical. Possibly an acute exacerbation of a chronic case.

Mager u. Sternberg: *Wiener klin. Wochnschr.*, 1906, XIX, 1471.
Duration, twenty-seven days. R.B.C. 3,241,000. Hb. 40. W.B.C. 3200. Pmn. 81, Mono. and Lympho. 19, no myelocytes. Second examination, three days before death showed R.B.C. decreased, otherwise entirely normal. Atypie not described. At autopsy blood showed 21% myelocytes. Microscopic infiltration of all organs with myeloid cells. Seen in aleukaemic stage.

Marchet et Rieux: *Arch. des Maladies du Coeur*, 1913, VI, 574.
Duration, one month. Blood—R.B.C. 1,600,000. W.B.C. 1,200,000. Myeloblasts 58.2. Rieder cells 7.2. Premyelocytes neutrophilic 10.6. Myelocytes neutrophilic 4.9. Metamyelocytes 6.8. Polys. 10.6. Lymphocytes and large mononuclears 1.6. Autopsy. Spleen weighed 750 grams. Histologic myeloid changes in spleen, liver, lymph glands and marrow. This is a doubtful case. The white count of over one million and the large spleen, suggest that it is an acute exacerbation of a chronic case.

Meyer, O.: *Frankfurt Zeitschr. f. Path.*, 1914, V, 40.
Case 1. Duration, three months. R.B.C. not counted. Hb. 11. W.B.C. not increased, judged from smears. Clinical diagnosis, Pernicious Anaemia. Autopsy, histologic study show marked myeloid transformation. Oxydase reaction positive on tissues. Incomplete clinical study of blood. May be acute myeloid leukaemia or a pernicious anaemia with terminal stimulation of embryonic hematopoietic tissue.

Pfannkuch: *Münch. Wed. Wochnschr.*, 1904, Bd. 51, S. 1732.
Duration, three weeks. R.B.C. 2,500,000. W.B.C. 1,000,000. Pmn. 12.2, Large lymphocytes (myeloblasts) 76.5, Myelo. 10.6. Autopsy showed a large spleen. Microscopic examination reveals myeloid transformation. Probably an acute exacerbation of a chronic case. Large spleen, high count and history of being pale a long time, point to this.

Port: *Deutsch. Archiv. f. klin. Med.*, 1909, Bd. 96, S. 236.
Duration, six to eight months—acute exacerbation two months. R.B.C. 3,524,000. Hb. 52. W.B.C. 159,400. Myeloblasts 73.6. Premyelocytes 11, Pmn. 5.2, Eos. 0.8, Baso. 0.8, Large lympho. 1.2, Small lympho. 1.8. (500 cells counted.) Atypie present. Autopsy and histology typical. Excellent report, but possibly an acute flare up of a chronic case.

Reimann: *Wiener Klin. Wochnschr.*, 1899, Bd. 12, 967.
Duration, five weeks. R.B.C. 1,200,000. Hb. 20. W.B.C. 350,000. No accurate differential count. Autopsy made. Microscopic examination showed what was probable myeloid transformation, not recognized by the author. Possible case, but incomplete.

Schuldt: *St. Paul Med. Jour.*, 1913, XV, 568.
Reports a case as acute myelogenous leukaemia. Insufficient evidence. No differential count made. No autopsy.

Sternberg: *Wien. klin. Wochnschr.*, 1911, Bd. XXIV, S. 1623.

Case 1. Duration, two weeks. Blood—none made during life. Lympho. (large trans. forms) 21.2. Pmn. 45.3. Myelocytes 23.5. Myeloblasts 10. Autopsy made. Histology, liver, spleen, lymph gland and bone marrow, slight myeloid change—not massive. Histology of scarlet fever; convalescence, twenty-third day; then chicken-pox, hemorrhagic diathesis and death in a week.

Case 2. Blood—no counts. W.B.C. increased. Polys. 71.4. Lympho. 14.4. Myeloblasts 10.5. Myelocytes 3.7. Histology: myelocytes in spleen, lymph gland, bone marrow, after scarlet fever and chicken-pox. Neither case shows the extreme reduction in polymorphonuclears, the large number of myeloblasts and extreme myeloid change in organs, with myeloblasts.

Sternberg: *Wiener klin. Wochnschr.*, 1911, Bd. XXIV, S. 1623.

Case 3. Duration, three and one-half months. Blood—no counts. Pmn. 50. Lympho. 29.4. Myelocytes 17.5. Myeloblasts 3.1. Histology; slight changes in liver, spleen, bone marrow and lymph gland. Probable acute infection.

Wolfer: *New York Med. Jour.*, 1910, XCII, 1069.

Duration, four and one-half months. W.B.C. 36,840, varied from 20,000 to 117,200. Pmn. 30. Eos. 16. Lympho. 10. Myelocytes 30, Unclassified 14. Just before death Pmn. 64, Myelocytes 16, Lympho. 13, Large mono. 2. No Atypie. No autopsy. Previously existing furunculosis, an intercurrent erysipelas, and a terminal pneumonia over period of four and one-half months. Grave doubt of this being acute myelogenous leukaemia. Blood picture not typical, and is consistent with an infection. No atypie, and no myeloblastic increase. No autopsy to prove.

The etiology of acute myelogenous leukaemia has been purposely left until the end for consideration. The impression gained by an intensive study of two cases, and the review of all the cases in the literature leads one to the conception of leukaemia as a system disease in which a proliferation of all the myeloid tissue of the body takes place. As to the real cause of this proliferation there are no accepted facts. Three theories are advanced. One considers myeloid leukaemia as a malignant tumor of the myeloid cell. The second theory holds that some infectious agent is the etiological factor. A third point of view advocated by Naegeli gives to leukaemia a place of its own among diseases.

In favor of the Tumor Theory are the macroscopic and microscopic extensions of myeloid cells into neighboring tissues, the growth being infiltrating, and tending to be about blood vessel walls. The cells of the blood vary from the type form and multiply rapidly without physiological cause. In this connection the cases of chloroma are of interest. The green deposits in the bones are made up of myeloid cells. Burgess[44] has reported a case of acute myelogenous leukaemia which showed the characteristic lesions of chloroma. He proposes to adopt the term myeloblastoma, suggested by Dock and Warthin for certain cases of chloroma, and to use it for all types of myelogenous leukaemia, of which he considers chloroma one. According to this view myelogenous leukaemia is a tumor whose type cell is the myeloblast. The close relation of leukaemia and chloroma is attested by Ordway,[9] who, while working with the blood of a large series of myeloid leukaemia cases at the Collis P. Huntington Hospital, Boston, found that the citrated blood when centrifuged in fine capillary tubes gave a buffy coat of white blood cells, which varied in thickness directly as the leukocyte count. More significant, however was the observation that the color of the buffy coat varied from a cream to a brilliant apple green, depending upon the type of cell present. The less highly differentiated the cells in the blood were, the greener the buffy coat. Against the tumor conception may be urged the belief that leukaemic growths originate from fixed cells in different organs, possibly by a reversion to embryonic activity, and not by metastasis. Finally, if leukaemia is to be classed as a tumor, we are still far from the final etiological agent.

In favor of viewing leukaemia as an infection, is the argument by analogy from clinical observation. The disease picture resembles an acute infection in its high fever, splenic tumor and hemorrhages. Unfortunately, bacteriological studies have failed to throw much light on the cause of the disease. A large number of different organisms have been isolated from the blood, but their very number and diversity cast great doubt upon their etiological bearing. Moreover these successful blood culture findings are counterbalanced by a large number of negative results. No one has succeeded in reproducing the disease in animals with the organism isolated. Injections of leukaemic blood and macerated leukaemic organs have also failed to produce lesions. These negative results and the great variety of organisms isolated, argue against any one specific germ as the cause of leukaemia. The organisms obtained by blood culture may be generally considered as being present because of a general sepsis which gives the blood picture of leukaemia, or merely as secondary invaders.

Sternberg,[49] who firmly believes that there is no such disease as acute myelogenous leukaemia, argues that the symptom-complex and the blood picture are simply the result of a general septic infection. He believes that many cases of sepsis would show the typical blood and tissue changes of "so-called acute myelogenous leukaemia," if studied carefully. He has reported twenty-one cases of "so-called acute myelogenous leukaemia." These cases had the typical blood picture and myeloid transformation of the organs, but clinically, anatomically and bacteriologically, they were, to his mind, not leukaemia, but acute infectious disease.

It can not be denied that infections play a rôle in the etiology of acute leukaemia, but the question is, as to how important and direct this rôle is. The more cases one studies of various types of anaemia and leukaemia, the more difficult it seems to be, to set up arbitrary standards or sharp divisions between the different varieties encountered. It is hard to say just where to draw the line which shall separate blood pictures due to certain phases of activity of the blood forming organs seen in infections, from an accepted clinical entity such as leukaemia.

Sappington[50] recently reported a case which had the features of pernicious anaemia for six months, and then became typical of acute myeloblastic leukaemia. Classification of such a case is very difficult.

This difficulty is reflected in the literature by the terms "leukanemia" and "mixed leukaemia." The former term introduced by von Leube[51] was to cover atypical cases. Von Leube's original case had a severe anaemia, a relatively low leukocyte count (10,500), enlarged spleen, and a blood picture of chronic leukaemia. Leukanemia is not accepted by the majority of hematologists. Under this heading have undoubtedly been reported cases which were actually acute leukaemia. At autopsy a part of such cases are found to be severe anaemia without myeloid change of the organs, while others are found to be true leukaemia.

The term "mixed leukaemia" is another which is regarded with suspicion. It is not supposed that we have a chronic myelogenous leukaemia turning into an acute lymphatic, or that the two diseases exist together. Instances of this kind are undoubtedly those in which the blood picture of a chronic myeloid leukaemia is changed by an outpouring of myeloblasts. This is common following X-ray, benzol, and radium treatment, when after a period of remission the patient grows rapidly worse. Fig. 11 shows the blood from such a case.

If we turn to the blood findings of acute infection we see that the reaction of the blood forming organs to infection is shown by an increase of the polymorphonuclear leukocytes in the blood. If the demand made by the infection is pressing, the hematopoietic organs may discharge cells into the circulation before they are fully ripe, i. e., a few myelocytes may appear. All the recent authors on this subject (Naegeli, Pappenheim, Hirschfeld, Domarus, Herz, Sternberg) emphasize the point that "the blood picture in many cases of general infection exactly resembles that of acute myelogenous leukaemia, and that the only difference between the diseases lies in the outcome."

Further two cases have recently been personally observed which were diagnosed as pernicious anaemia, both of which showed a myeloblastic and myelocytic blood shower just before death. One case had a terminal pneumonia. Billings[52] reports a case of pernicious anaemia which two days before death showed the white blood cells to be 34,000 per cubic millimeter. Of these 29.4 per cent were myelocytes. Naegeli[4] cites Morawitz' case which shows the danger of making the diagnosis of acute myelogenous leukaemia from the blood alone, without autopsy. A severe anaemia following a necrotic angina lasted for some time. Many nucleated red cells, 20 per cent myelocytes and many erythroblasts were present. White blood cells numbered 22,100 per cubic millimeter. Recovery. Naegeli's own comment is, "if the patient had died because of some complication, almost no one would have disputed the diagnosis of acute myelogenous leukaemia, on the basis of the clinical and blood findings. Since the patient recovered, the case was undoubtedly one of anaemia with high grade reaction of the bone marrow."

The question is well raised as to whether it is advisable to make a diagnosis of a disease simply on the basis of whether the patient lives or dies. It does not seem possible to differentiate every case as sharply as we would wish to. If we consider acute myelogenous leukaemia a definite clinical entity with a single etiological agent, it at once becomes difficult to classify the cases which do not conform entirely. There are perhaps gradations and connecting links in the blood picture, and histological changes between simple infections on the one hand, and the complex known as acute myelogenous leukaemia on the other.

To theorize further: the bone marrow may be conceived as being normally held in a state of equilibrium by a balancing of forces. This balance may be easily disturbed, producing in different individuals under different grades and varieties of stimuli, leukocytosis, myelocytosis, or a myeloblastic reaction. The occurrence of acute myelogenous leukaemia presupposes the existence in the individual of a special disposition or susceptibility. When the proper stimulus occurs, the marrow pours out myeloblasts and myelocytes, and possibly the embryonic blood forming organs return again to activity, producing myeloid cells in liver and spleen.

If we now turn to the histological findings of the haematopoietic organs in infectious diseases we will find that myeloid changes in spleen and lymph glands have been reported. Lüdke[53] made apes and dogs anaemic with pyrodin, and then gave intravenous injections of staphylococci and streptococci. He obtained leukaemic blood pictures, white counts of 50,000-80,000, and fifteen per cent myelocytes, accompanied by normoblasts and megoloblasts. The lesions of leukaemia were not produced. Lüdke, speaking of his efforts to produce leukaemic blood pictures experimentally in animals, says his results show that leukaemic changes may be produced by many different causes, but we are not justified in speaking of a specific parasitic agent. Among the different infectious poisons which may lead to changes simulating a leukaemic state, the pus forming organisms seem to lead, from a clinical standpoint. The bacterial agent, however, is only the final straw. The genesis lies in the peculiar disposition of the blood building organs which make a harboring of cocci or bacteria possible.

That leukaemia occurs among animals has long been known, and is described in dogs, cats, pigs, mice and chickens. In the latter, the disease has ben transferred through three generations by injection of mashed up organs of sick fowls. Schmeisser[54] has recently confirmed the work on fowls with an entirely new and unrelated strain.

If the transfer of leukaemia from animal to animal could be kept up indefinitely, it would be a great support for the infectious theory of the disease in man. On the whole, the weight of opinion favors the infectious theory. No one organism has been shown to be the cause. This would seem improbable, as different toxins probably have the power to produce a leukaemia in certain predisposed or susceptible individuals.

General Summary.

1. Acute myelogenous leukaemia is more commonly observed than acute lymphatic leukaemia. The increased number of cases of the former reported in recent years is probably due to more accurate study of all cases of acute leukaemia.
2. There are twenty-eight proven cases, twenty-seven probable cases, and eighteen doubtful ones in the literature.
3. The onset and course of the disease resembles that of an acute infection. The diagnosis can be made only by careful blood examination, and not always then. Complete histological study of the hematopoietic organs is necessary to obtain full proof.
4. The importance of the indolphenolblue synthesis test, especially as modified by Graham when applied to blood and tissues, is to be emphasized as furnishing a practically certain means of differentiating the two types of acute leukaemia.
5. The etiology is still unknown. The weight of opinion seems to favor the infectious theory as to the cause of leukaemia. A single etiological agent seems doubtful, as different toxins can probably produce the same picture.

The privilege of studying both of the cases reported was extended by Dr. A. W. Elting, to whom appreciative thanks are given.

I am also indebted to Dr. Ellis Kellert for the autopsy protocol and for technical assistance at the Bender Hygienic Laboratory.

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Description of Plates.

Fig. 1. (a) Normal bone marrow (x63) showing fat spaces and groups of red blood cells, represented as dark clusters.

(b) Case 1. Bone marrow (x63). Diffuse myeloid infiltration replacing normal fat marrow.

Fig. 2. (a) Normal bone marrow (x350) fat and red cells.

(b) Case 1. Bone marrow (x350). Myeloblasts numerous. Red cells few.

Fig. 3. (a) Normal spleen (x63). Lymphocytes in profusion about blood vessel forming typical splenic nodule.

(b) Case 1. Spleen (x63). Lymphocytes of splenic nodule greatly reduced in number and replaced by myeloid infiltration.

Fig. 4. (a) Normal spleen (x350). Loose reticular structure lymphocytes and endothelial cells at edge of a follicle.

(b) Case 1. Spleen (x350). Marked cellular increase of myeloid type.

Fig. 5. (a) Normal lymph gland (x63). Arrangement of lymph follicles clearly shown.

(b) Case 1. Lymph gland (x63). Normal follicular architecture destroyed by a diffuse myeloid change.

Fig. 6. (a) Normal lymph gland (x350) a detail of fig. 5 (a), at edge of lymph follicle.

(b) Case 1. Lymph gland (x350). The substitution of myeloid for lymphoid cell is clearly evident, a detail of fig. 5 (b).

Fig. 7. (a) Normal liver (x63).

(b) Case 1. Liver (x63). Capillaries filled with myeloid cells, with marked accumulation about central vein.

Fig. 8. Normal liver (x350) detail of fig. 7 (a).

(b) Case 1. Liver (x350) detail of fig. 7 (b).

Fig. 9. Case 1. Blood. Wright's stain (x350). Premyelocytes and myeloblasts predominate. Similarity to lymphocytes. No mature polymorphonuclear leukocytes are present.

Fig. 10. Case 2. Blood. Wrights stain (x350). Myeloblasts and premyelocytes predominate. The polynuclear cells are chiefly of immature type.

Fig. 11. Chronic Myelogenous Leukaemia. Blood. Wright's Stain (x350). After acute relapse which followed a remission produced by radium therapy. Note similarity to figs. 9 and 10. A very high percentage of myeloblasts is present.

Fig. 12. Winkler Oxydase reaction. Granules of indolphenolblue in polymorphonuclear leukocytes (x350); above is a lymphocyte containing no granules, which fails to show in photomicrograph.

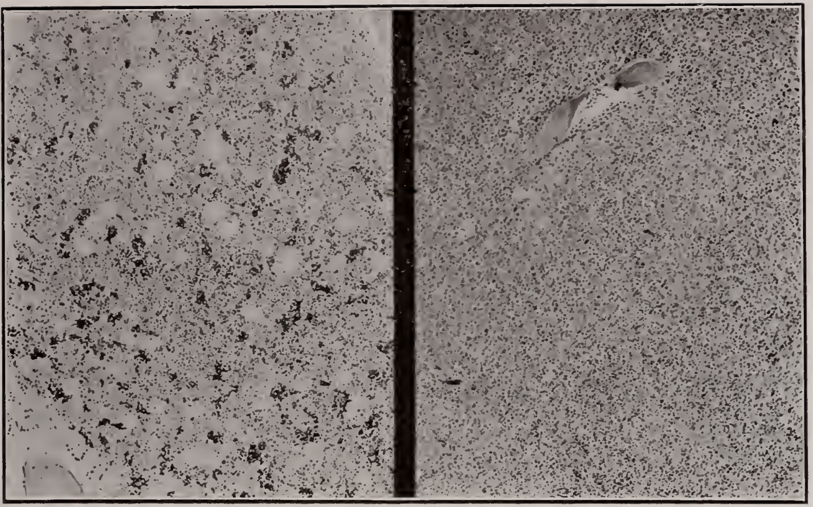
Fig. 13. Oxydase reaction as modified by Graham. Polymorphonuclear leukocyte (x350). Granules are bright red, nucleus pale blue. Lymphocyte stains blue, and contains no granules.

Fig. 14. Oxydase reaction as modified by Graham. Two polymorphonuclear leukocytes and a transitional cell. Note the definite although lighter granulation of the transitional cell. This argues for its origin in the bone marrow.

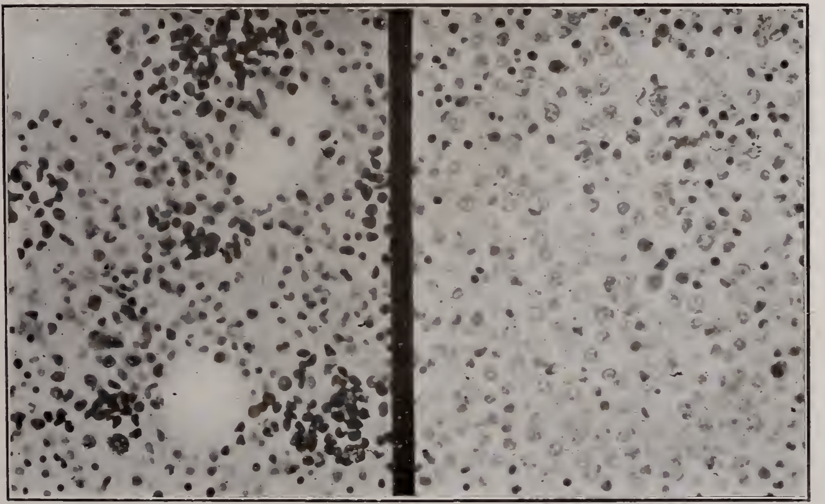
Fig. 15. Case 1. Liver (x63). Oxydase reaction (Winkler). Myeloid cells stain dark blue in vicinity of central vein.

Fig. 16. Liver. Chronic myelogenous leukaemia. Oxydase reaction (Graham). The myeloid cells scattered through, grouped about central vein stain red.

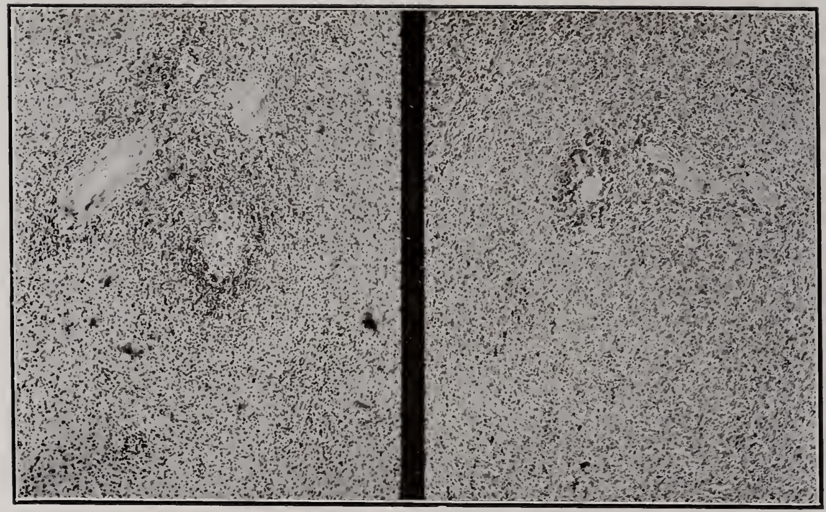
Figures 12, 13, 14, 15 and 16 are included to show the appearance of the oxydase reaction and its modification when applied to blood and tissues.



(a) FIG. 1 (b)



(a) FIG. 2 (b)



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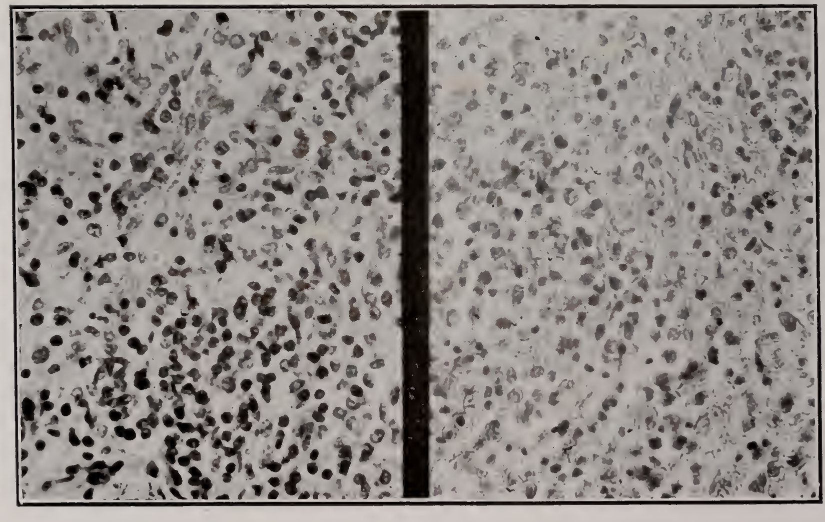
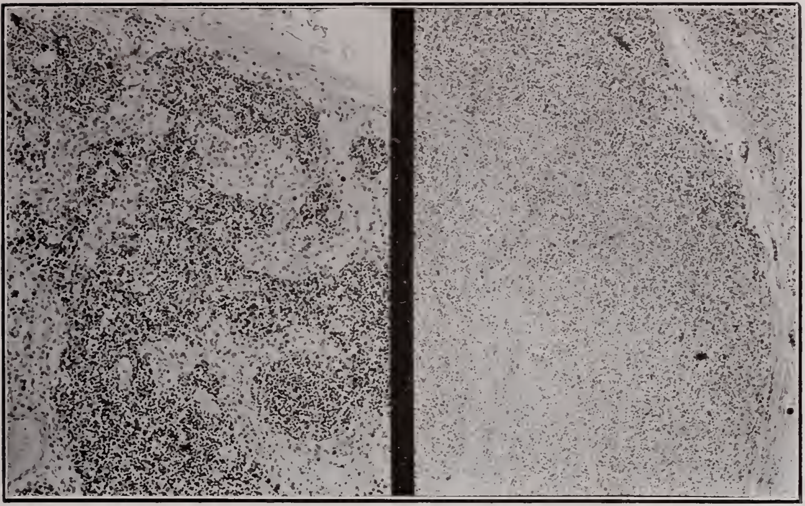
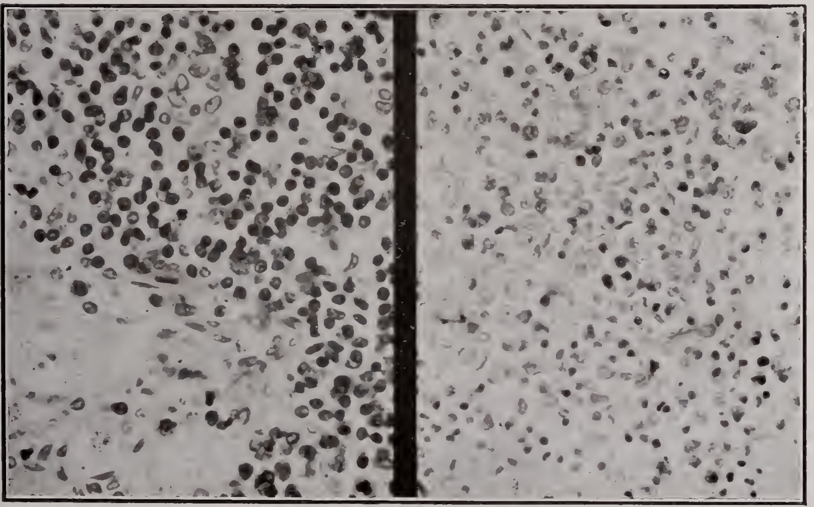


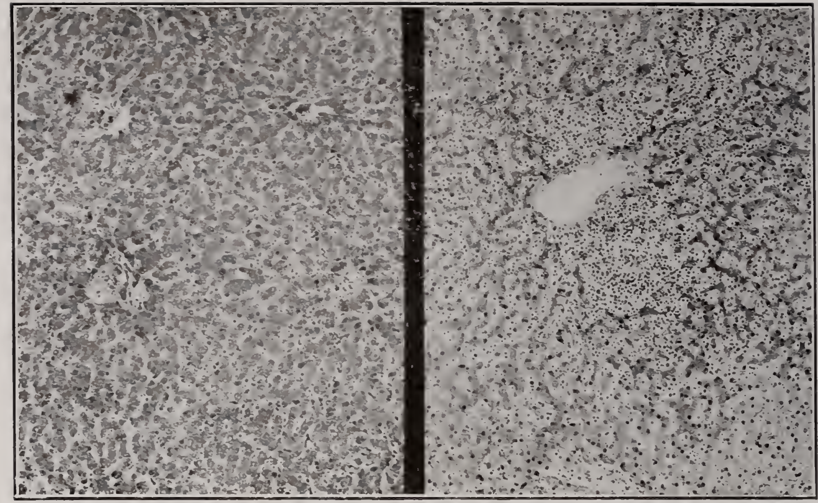
(a) FIG. 4 (b)



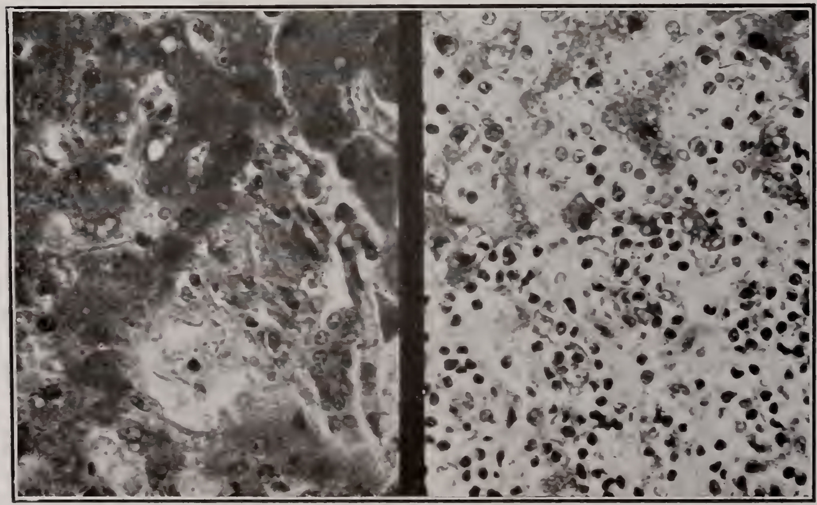
(a) FIG. 5 (b)



(a) FIG. 6 (b)



(a) Fig. 7 (b)



(a) Fig. 8 (b)

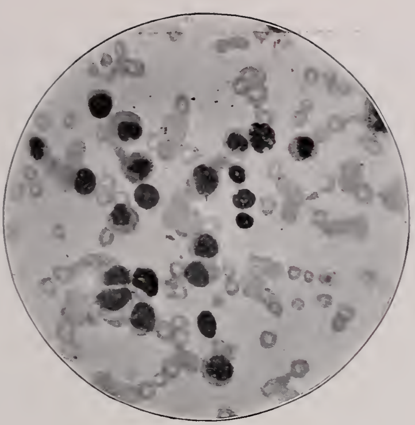


Fig. 9

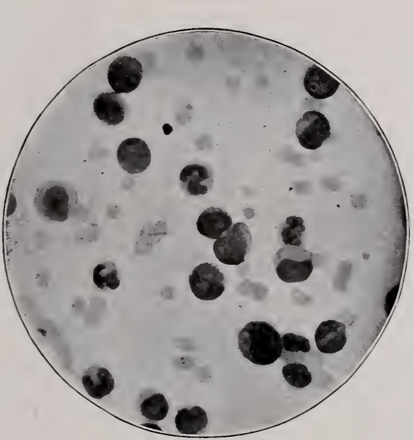


Fig. 10

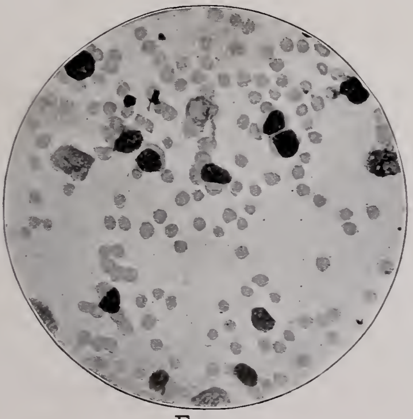


Fig. 11

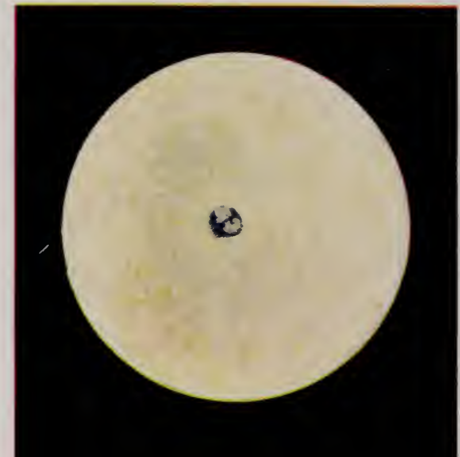


Fig. 12

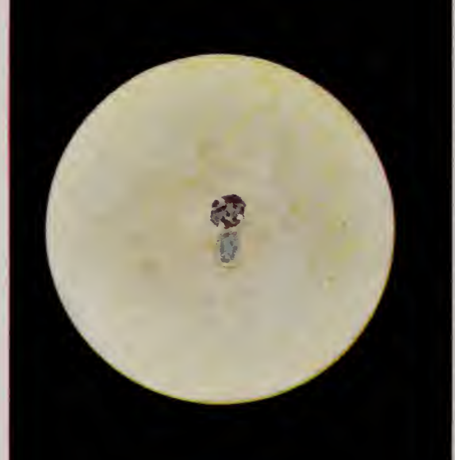


Fig. 13

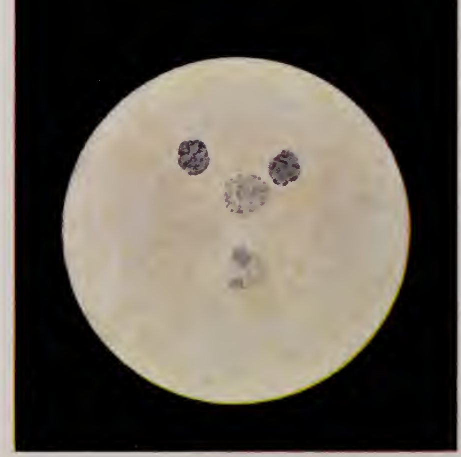


Fig. 14

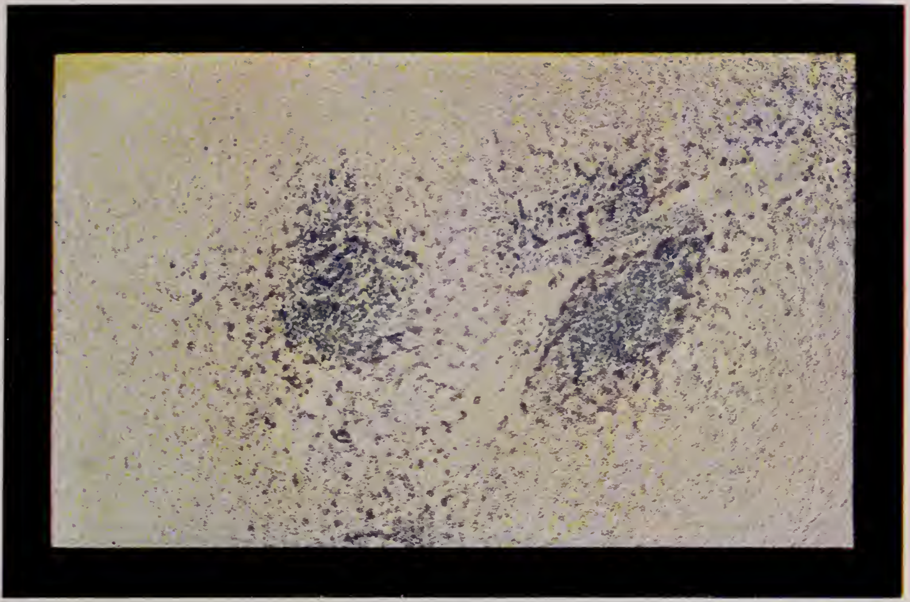


Fig. 15

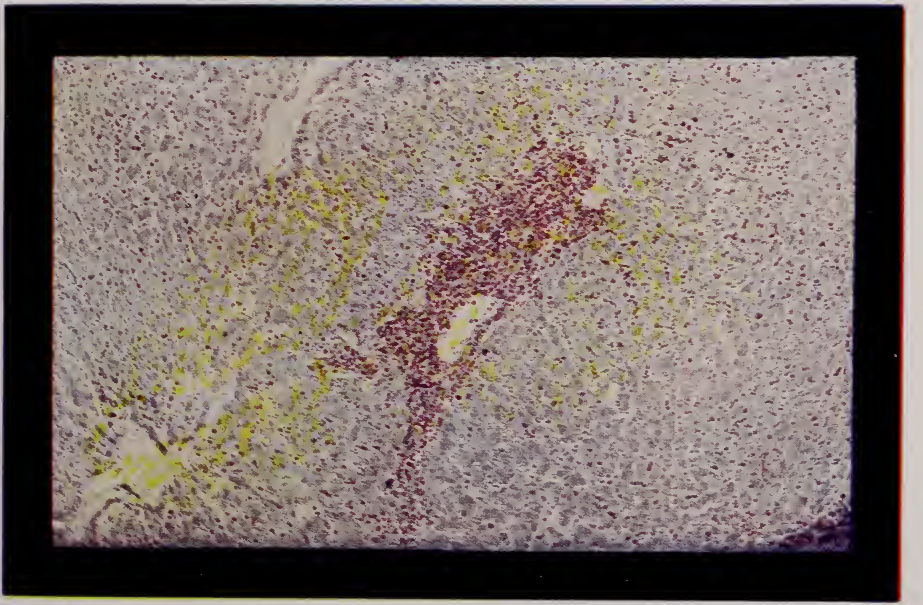


Fig. 16

Editorial

I had heard so much of the cannon fever, that I wanted to know what kind of thing it was.

I had now arrived quite in the region where the balls were playing across me: the sound of them is curious enough, as if it were composed of the humming of tops, the gurgling of water, and the whistling of birds. They were less dangerous by reason of the wetness of the ground; wherever one fell, it stuck fast. And thus my foolish experimental ride was secured against the danger at least of the balls rebounding.

In the midst of these circumstances, I was soon able to remark that something unusual was taking place within me. I paid close attention to it, and still the sensation can be described only by similitude. It appeared as if you were in some extremely hot place, and, at the same time, quite penetrated by the heat of it, so that you feel yourself, as it were, quite one with the element in which you are. The eyes lose nothing of their strength or clearness; but it is as if the world had a kind of brown-red tint, which makes the situation, as well as the surrounding objects, more impressive. I was unable to perceive any agitation of the blood; but everything seemed rather to be swallowed up in the glow of which I speak. From this, then, it is clear in what sense this condition can be called a fever. It is remarkable, however, that the horrible uneasy feeling arising from it is produced in us solely through the ears. For the cannon thunder, the howling and crashing of the balls through the air, is the real cause of these sensations.

After I had ridden back and was in perfect security, I remarked, with surprise, that the glow was completely extinguished, and not the slightest feverish agitation was left behind. On the whole, this condition is one of the least desirable; as, indeed, among my dear and noble comrades, I found scarcely one who expressed a really passionate desire to try it.

Compaign in France in 1792. GOETHE.

Red Cross Base Hospital Units. The official status of that part of the American National Red Cross rendering aid to land and naval forces in time of war is such that Red Cross units will constitute a part of the sanitary service of the War Department and that in time of war or when war is imminent the President may deem the co-operation and use of the American National Red Cross with the sanitary services of the land and naval forces to be necessary and he is authorized to accept the assistance tendered by the Red Cross and to employ the same under the sanitary services of the Army and Navy in conformity with such rules and regulations as he may prescribe. While proceeding to their place of aid and while returning therefrom these members of the Red Cross will be transported and subsisted at the cost and charge of the United States as civilian employees and Red Cross supplies that may be tendered as a gift and accepted for use in the sanitary service shall be transported at the cost and charge of the United States.

Base hospitals are medical department units. They should be established at the base when necessary in accessible situation along the line of communications. The number of such hospitals is based on the number of troops to be served and the percentage of sick and wounded which may be reasonably anticipated. The function of base hospitals is to receive patients from the field and evacuation hospitals as well as cases originating on the line of communications. At the base hospital definite treatment is given, for the purpose of the base hospital is to return as many soldiers to the front and as few as possible, those chronically invalided, to the rear.

Red Cross base hospitals are organized by the American Red Cross for service with the Army and Navy and when reported by the National Headquarters of the Red Cross as ready for service are placed on the roll in the Surgeon General's office of the department for which they are enrolled. The Red Cross muster-in-roll contemplates an engagement with the Red Cross by which the individual agrees to hold himself ready for service in the organization for the period of two years. When the unit is called into active service with the medical department of the Army and Navy its engagement is terminated by the various classes of individuals entering in their different capacities. It is anticipated that in the case of Army enlistments these will be in the volunteer forces and the term of enlistment will be limited to the duration of hostilities.

The Army and Navy units are fundamentally similar but differ slightly in certain details according to the special requirements of the service. The strength and organization of these units is in accordance with the agreements between the Red Cross office and the Surgeons General of the Army and Navy. The Army unit base hospital corresponds quite closely to that of a general hospital of 500 beds, the male administrative personnel of which is intended to be filled up to the standard strength after the unit is called into service.

The strength and organization of the Army unit is as follows: medical officers, 23; dentists, 2; chaplains, 1; nurses, 50; nurses' aids, 25; male administrative personnel, 50; civilian employees, 10. This number includes the quarter-master and registrar who may or may not be medical men. It is proposed to have in reserve fifteen additional nurses and 25 additional nurses' aids. Fifty is the minimum for enrollment of male administrative personnel. The Navy units are similar in organization but the personnel is less numerous. It is proposed, in order that there may be no confusion or delay in time of war or when war is imminent, to have all necessary measures taken in advance to provide that the various classes of individuals above mentioned shall serve in the medical department of the Army or Navy.

The medical officers of Army units have, as a rule, been commissioned in the medical reserve corps. These will, in the course of a year, be transferred to the medical section of the officers' reserve corps, then the latter will hold the grades of major, captain and first lieutenant. Dentists will be enrolled in the dental section of the officers' reserve corps and when called into service will have the rank of first lieutenant. No provision exists at present for the enrollment of chaplains in the officers' reserve corps but it is probable that they will be given a volunteer commission. Pharmacists in the Army rank as non-commissioned officers. Nurses enrolled in such units will all be members of the American Red Cross nursing service which constitutes the reserve of the Army and Navy nursing corps. They will pass into the service of the Army or Navy corps when the unit is called to active service. When so called they will receive the same pay and allowance of maintenance. It will be necessary, therefore, for all nurses enrolled in the unit to be first enrolled in the American Red Cross nursing service in accordance with the regulations of that service.

The chief nurse will be responsible for the selection of the nurses who will be enrolled in the nursing service of the American Red Cross. Provision has been made for the assignment to base hospital units of a limited number of women who are not nurses by profession. They are known as volunteer nurses' aids and serve without pay but may be furnished with lodging and subsistence when the unit to which they are attached is called to active service. Nurses' aids will be prepared for study under the supervision of the nursing service of the Red Cross and will be required to attend at least one course of instruction in elementary hygiene and home care of the sick and pass a satisfactory examination in the same. The chief nurse of the base hospital unit will be responsible for the selection of all nurses' aids attached to her unit and will, if necessary, arrange for their instruction. When called into service they will serve under the direction of the chief nurse of the unit. The services of nurses and nurses' aids may be terminated by resignation at any time for reasons deemed adequate.

The male administrative personnel includes all individuals who, when the unit is called into active service, will enter the service of the medical department of the Army by enlistment. The period of enlistment is four years unless sooner discharged. For such enlistment applicants must be between the ages of eighteen and forty-five and must meet the physical, educational and practical requirements which may be prescribed. The male administrative personnel includes pharmacists and the higher clerical and administrative personnel, other than professional, and will be given the enlisted grades after appointment. Orderlies and laborers connected with the various departments of the hospital will be enrolled as privates.

For the minimum allowance of male administrative personnel for enrollment it is believed to be very appropriate that medical students, especially of the fourth and third year, be enrolled. These, after two or three years of service when they become second or first class men, would naturally be permitted a higher non-commissioned rating and upon graduation should be recommended for discharge in the enlisted Reserve Corps if they desire it. As there will be present in many units professors, as well as students, it would be perhaps possible in a great war to have teaching facilities for students who would be graduated into the military service. This has been done to a notable extent in European armies. It is recognized that the prolonged absence from home is very injurious to the practice of medical men and cannot be afforded by those dependent upon it for the support of themselves and their families. The suggestion has been frequently made that an arrangement be devised like that of certain American hospitals being maintained in France by medical schools whereby after a period of service of six months to a year medical officers will be relieved from duty and replaced by others from the reserve list of officers connected with the hospital or unit. This discharge could be easily arranged through the military relief department of the Red Cross. While the details have not been as yet worked out it may be stated that the scheme in a general way meets with the approval of the Surgeons General of the Army and Navy and is believed to be entirely practical.

THOMAS ORDWAY.

Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC HEALTH, BUREAU OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, MARCH, 1917.

COMPILED BY WILLIAM F. FULLGRAFF, REGISTRAR.

Deaths

Consumption	28
Typhoid fever	2
Scarlet fever	0
Measles	1
Whooping cough	0
Diphtheria and croup	1
Grippe	2
Diarrheal diseases	4
Pneumonia	15
Broncho-pneumonia	10
Bright's disease	15
Apoplexy	10
Cancer	13
Accidents and violence	10
Deaths under one year	21
Deaths over 70 years	44
Death rate	19.54
Death rate less non-residents	16.47

Deaths in Institutions.

	Non-res.	Res.
Home for the Aged	2	0
Albany County Hospital	1	2
Albany Hospital	10	16
Central Federation Camp	1	0
Hospital for Incurables	2	0
St. Margaret's House	3	3
Maternity Hospital	3	5
St. Peter's Hospital	3	10
Homeopathic Hospital	2	9
Albany Hospital Camp	4	8
Public places	2	1
	33	54

Births	202
Still births	3

Bureau of Communicable Disease.

Cases Reported During March, 1917

Typhoid fever	9
Scarlet fever	33
Diphtheria and croup	12
Chickenpox	48
Measles	58
Whooping-cough	3
Tuberculosis	37
Trachoma	1

Number of days quarantine for scarlet fever:

Longest...... 35 Shortest...... 31 Average. 32 2/14

Number of days quarantine for diphtheria:

Longest...... 35 Shortest...... 19 Average...... 25

Fumigations:

Houses.......................... 47 Rooms.................. 198

Milk bottles disinfected 475

Communicable Disease in Relation to Schools.

		Reported	
	D.	S.F.	M.
Public School No. 1	....	1	....
Public School No 3	....	2	....
Public School No. 4	....	2	....
Public School No. 5	....	....	9
Public School No. 7	....	1	....
Public School No. 10	....	2	....
Public School No. 12	2	....	....
Public School No. 14	....	....	2
Public School No. 16	....	....	12
Public School No. 24	....	2	....
High School	....	....	1

Tuberculosis.

Nurse's Report

Living cases on record March 1, 1917		712
Cases reported:		
By card	34	
Dead cases by certificate	3	37
		749
Dead cases previously reported	24	
Dead cases not previously reported	3	27
Living cases on record April 1, 1917		722
Total tuberculosis death certificates filed during March, 1917		27

Non-residents:		
Albany Hospital Camp	4	
C. F. L. Pavilion	1	
St. Peter's Hospital	1	6
Resident deaths		21

Visits to Cases of Communicable Disease

Tuberculosis	59
Visits to physicians	8
Investigations	3

BUREAU OF PATHOLOGY

Bender Laboratory Report on Diphtheria.

Initial positive	39
Initial negative	418
Release positive	76
Release negative	164
Suspicious	6
No growth	24
Total	727

Test of Sputum for Tuberculosis.

Positive	18
Negative	85
Unsatisfactory	1
Total	104

Widal Tests.

Positive	6
Negative	38
Suspicious	4
Unsaisfactory	4
Total	52
Wassermann tests	169
Milk analyses	140
Pathological specimen	1

BUREAU OF NUISANCES.

Complaints made	57
Inspections	57
Plumbing	24

Sanitary	33
Reinspections	68
Plumbing	20
Sanitary	48

HEARINGS.

Cases heard before health officer	4

Class of Cases.

Plumbing	1
Dump	1
Filthy premises	1
Garbage	1

Disposition of Cases.

Abated	4

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

Inspections	134
Old houses	62
New houses	72
Permits issued	71
Plumbing	56
Building	15
Plans submitted	14
Old buildings	10
New buildings	4
Houses tested	28
Blue or red	1
Peppermint	5
Water test	22
Houses examined	32
Re-examined	52
Valid	15
Without cause	17
Violations	1

DEAD ANIMAL REPORT.

Horses removed	22
Dogs removed	146
Cats removed	204

BUREAU OF MARKETS AND MILK.

Public market inspections		25
Market inspections		130
Fish market inspections		19
Packing house inspections		1
Rendering plant inspections		1
Hide house inspections		6
Slaughter house inspections		2
Milk depots inspected		9
Stores inspected		130
Milk cans inspected		210
Dairies inspected		2
Dairies quarantined		2
Lactometer readings		115
Temperature readings		115
Fat tests		88
Chemical tests		35
Bacterial counts		63
Bacterial examinations, special		2
Complaints investigated		2
Poultry condemned	lbs.	10

MISCELLANEOUS.

Cards posted for communicable disease		69
Cards removed		26
Notices served on schools		201
Notices served on stores and factories		203
Postal card returns sent to doctors		106
Postal card returns received from doctors		67
Inspections and reinspections		78
Work certificates issued to children		23
Vaccinations		10
Cases assigned to health physicians		71
Calls made		141
Signs furnished to licensed plumbers		2
Garbage collected from first district	bbls.	123
Garbage collected from second district	bbls.	143
Garbage collected from third district	bbls.	108

Medical News

Medical Society of the County of Albany.—The members of the County Medical Society were the guests of the Albany County Bar Association on the evening of April 11, 1917. Members of the two associations met in joint session at the County Court House, and were addressed by the Hon. Alden Chester, Justice of the Supreme Court, on "Hygiene and Good Cheer." A social entertainment followed at the Albany Club.

The regular monthly meeting was held at the Albany County Court House on April 18th, the scientific program consisting of a presentation of "The Albany Idea," by members of the Clinical Club. The following named applicants were admitted to membership: Drs. Clinton P. McCord, Harry Judge, and Albert W. Greene.

Medical Society of the County of Rensselaer.—The regular monthly meeting was held at the Marshall Sanitarium, Troy, N. Y., on Tuesday evening, April 17, 1917. The program consisted of a series of mental cases presented by Dr. C. J. Patterson and Dr. G. R. Stalter.

American Medical Editors' Association.—The annual meeting of the American Editors' Association will be held at the McAlpin Hotel, New York City, on June 4th and 5th, under the presidency of Dr. G. M. Piersol, editor of the *American Journal of Medical Sciences*. A most interesting and instructive program is now being prepared and it is contemplated that the forthcoming session will be the largest ever held in the history of the association. The forty-eighth anniversary of this society will be celebrated by a banquet on the evening of June 5th at the McAlpin Hotel.

Chicago Medical Society.—The annual meeting of Alienists and Neurologists will be held Monday, July 9th, to Thursday, July 12th, 1917, in the Red Room, La Salle Hotel, Chicago, under the auspices of the Chicago Medical Society. Dr. George A. Zeller will act as chairman. The program will be mailed June 28th, with abstract of each paper. Contributors to the program are solicited. This is a society without a membership fee.

Personal.—Dr. Frederic W. Loughran (A. M. C. '90), who is medical adviser of the New York State Insurance Fund, a department of the State Industrial Commission, has contributed a popular article on industrial hygiene to the New York *Times Magazine* of April 8, 1917.

Dr. Loughran considers the relation of sickness to the efficiency of industries, and finds that the consideration of sanitation, hygiene and hours of work has resulted in a decided improvement in the employees; in a reduction of undue fatigue and of the risk among occupational disease; and also in fitting workers to employment for which their bodies are best suited. For the employer consideration of industrial hygiene has resulted in increased production in direct proportion to the health of the employee, and the general benefits to the community at large have been pronounced as there has been established increased efficiency from happy, contented working men and working women laboring under the best conditions, and enjoying not only their leisure but their working hours.

In these days of great industrial activity much thought has been given to the mobilization of our industrial forces, and when we consider that the vital resources of our country are five times as great as our material resources we must pause for a moment to see what may be done for the conservation and mobilization of this immense national asset.

—Dr. Theobald Smith (A. M. C. '83), contributes to the *Journal of the American Medical Association* of March 3 and 10, 1917, an exhaustive paper on "Certain Aspects of Natural and Acquired Resistance to Tuberculosis and Their Bearing on Preventive Measures."

This paper presents an elaborate scientific study of the biology of the tubercle bacillus during the four phases of its cycle from its origin in the tissues of an infected individual through its new host, to its exit from the tissues of this host. Interesting relationships between infections from human, bovine and avian, types of the bacillus are brought out.

From the public health standpoint the discussion of preventive and curative measures is of special interest to the practitioner of medicine, the writer dividing these measures into three broad groups:

First. Those directed toward the suppression of the infected organisms in transit from the infected individual to its prospective host.

Second. Measures directed toward the suppression of multiplication of tubercle bacilli in the infected individual by measures directed toward the increase of specific resistance of the individual by increasing the general powers of resistance.

Third. Measures directed toward the destruction, or rendering inert, of the tubercle bacilli in the host by,—

A. Immunity by reason of the existence of anti-bodies produced by earlier infection.

B. Administration of dead tubercle bacilli or the products of tubercle bacilli.

C. Chemo-Therapy.

Of the measures discussed in these three groups the last mentioned, Chemo-Therapy, is still in its laboratory stage, but hope is held out that further work along this line may produce gratifying results. The administration of vaccines and tuberculin has not, as yet, shown evidence of any considerable value. Inoculation by a previous slight infection is a well-established fact but hardly safe as a deliberate preventive measure. Suppression of the infected organism, in the diseased individual by conservation and increase of natural powers of resistance; and in transit from infected individual to host, by educational propaganda and proper isolation of careless infected individuals, still remains the most important weapon in the fight for the elimination of tuberculosis.

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ALBANY MEDICAL ANNALS

Original Communications

ACTINOMYCOSIS.

Read before the Medical Society of Saratoga Springs, January 19, 1917.

BY G. SCOTT TOWNE, M. D.

In presenting this paper on the subject of actinomycosis, I am assuming at the outset that you will not be particularly interested in the discussion of this disease. Possibly it may not have occurred in the practice of any one of you. Because of this fact and the fact that this disease is so very rare, I venture to say that it does happen many times without being recognized. With this thought in mind I am taking the liberty of calling your attention to some of the salient observations concerning actinomycosis, which I have gathered from the literature at my command representing the opinions and observations of many distinguished writers, and also for the purpose of presenting to you the history of a case which came under my care a little over a year ago.

The disease of actinomycosis is a combination of abscess formation and new growth of connective tissue. In most cases the disease has the character of a subacute or chronic suppurative process, but in some cases the new growth of connective tissue may be so marked a feature of the process that it may present the character of a tumor or neoplasm. The disease affects man and certain domestic animals, particularly cattle, in which it is probably best known.

The pathology of the bovine type of this disease is confined largely to the inferior maxillae and the surrounding tissues and has been variously described as medullary sarcoma of the jaw, or as "lump jaw." As a boy, I recall numerous instances of the presence of this disease among the herds of cattle in the west. General ignorance prevailed as to the nature of the infection; but it was a common custom among the ranchmen of the plains to amputate the head of the carcass and bury it following the slaughter of the animal for purposes of beef. I recall that there was a prevailing suspicion that there possibly was a general taint of the meat of the entire carcass, but that did not interfere with the conscience of the ranchmen in disposing of the meat.

On several occasions I carefully dissected the heads of some of these animals, where the disease occurred on our own ranch and remember that the lesions of the disease in cattle consisted in general of an overgrowth of granulation and connective tissues, throughout which were distributed, more or less plentifully, small, yellowish, soft suppurative areas or abscesses. Where the disease was confined entirely to the jaw bone there was usually quite an extensive growth of rarified bony substance.

This disease has been described by many authors as common to all other domestic animals including swine, horses and dogs, and may be situated in most any part of the body, particularly around the head and neck.

All observers agree that in man the disease is probably more common than is generally supposed. It most frequently affects the tissues in and about the oral cavity, the pharynx, and the neck. It also frequently affects the lungs, the bones of the thorax, and the intestinal tract. Almost any organ or part of the body may become the seat of the disease. Anatomically, the disease in man is essentially a destructive suppurative process. accompanied by a new growth of connective tissue which in general is not as abundantly developed as in the disease in cattle, so that in man the tumor-like lesions are less frequent.

The disease is due to the action of a vegetable parasite upon tissues which are suitably susceptible. This parasite is an organism closely allied to the bacteria, but belonging to a higher class. It occurs in the lesions, and in the discharges from them, as small aggregations or colonies, of variable size, which in most cases are visible to the naked eye as grayish or yellowish granules or lobulated bodies, less than 1 millimeter in diameter. The presence of the peculiar granules in the lesion or in the pus is characteristic and diagnostic of the disease. As a rule they are soft, and when placed on a slide and covered with a cover glass, they are flattened or crushed by the weight of the latter. In some instances, especially in cases in cattle, they may be more or less calcified. Under a low magnifying power a granule crushed beneath a cover glass will appear as an aggregation of lobulated hyaline masses, with rounded, finely serrated borders which may have a slightly brownish tint. In some instances a fine radial striation may be made out at the margins. As a rule masses of pus cells will be found surrounding the hyaline masses and making up a portion of the bulk of the granules. Under a higher magnifying power the hyaline material in places will have the appearances of being made up of a dense felt-work of delicate filaments having the diameter of bacilli of moderate size and closely packed together. At the margins these filaments usually have a radial arrangement, and some of them project beyond the limits of the hyaline mass. In the case of some granules, the margin of the hyaline mass may be formed of a row of closely set, elongated, finger-shaped, or club-shaped, or bulb-shaped bodies, composed of a hyaline substance and arranged radially. These bodies constitute the so-called " clubs " or " rays " on account of which the name " ray fungus " has been applied to the parasite. They are of variable size and width, often being three or four times the width of the filaments. In stained preparations a stained filament may often be seen in the median portions of the " clubs " or " rays," which for this and other reasons are regarded as modifications of the marginal filaments. In fact, it seems very probable that these bodies are nothing more than the results of degeneration of the marginal filaments, as has been pointed out by Bostrom. The " clubs " are much more frequently found in the granules from lesions in animals than in those from man. If one of the granules be broken upon a cover glass and suitably stained there will be seen on microscopical examination, besides long filaments which branch, short rod-like or bacillus-like or coccus-like forms. At the present time it is considered that the bacillus and coccus-like forms are the result of degeneration and of breaking up of the filaments. Some writers seem to think that the presence of the " clubs " or " rays " is a constant and necessary feature of the granules of genuine actinomycosis, and so they call those cases pseudo-actinomycosis in which granules are found which have little more to distinguish them from true actinomycosis than the absence of these bodies. In view of the fact that in one and the same case granules, both with and without " clubs " may be found, it seems probable that the so-called pseudo-antinomycosis is really not distinct from the true disease.

Microscopically, the lesions consist of larger or smaller abscesses, each containing one or two of the granules or colonies, and bounded by connective tissue, in all grades of development. In the latter, giant cells may be present. A granule in a section stained by Gram's method appears as a mass of filaments embedded in a hyaline material and showing at the margin more or less radially arranged filaments, or the " clubs " or " rays " previously described. The hyaline material seems to be composed in many instances of non-staining degenerated filaments. In other instances the nature of this hyaline material is not clear, but it is very probably the result of degenerative processes in the colony. It is not uncommon to see bacillus-like fragments of the organism in or among the pus cells surrounding the colony.

The most frequent seat of primary actinomycosis in man is the tissues about the buccal cavity and the neck. Primary actinomycosis of the outer skin, exclusive of the skin of the face and neck, is less frequent. Ruhrah, who has collected all the reported cases that he could find in the literature, gives the following figures: Total number of cases, 1,094, including certain cases probably counted more than once. In these the disease affected the head and neck in 56 per cent., the digestive tract in 20 per cent., the lungs in 15 per cent., and the skin in 2 per cent.; 6 per cent. are classified as doubtful. Various cases have also been recorded of actinomycosis of various organs, including the brain, without any demonstrable primary lesion in the situations above mentioned.

The infecting organism is probably frequently carried into the tissues along with foreign bodies, especially such as occur in food material in the case of cattle. The not infrequent finding of such foreign bodies in or near the lesions of the disease, and the observations of the increase of the disease in herds of cattle when a change has been made in their food, as also the very frequent localization in the neighborhood of the mouth, pharynx, etc., support this idea. No one, however, has satisfactorily demonstrated the parasite outside of the lesions, and we know nothing definite concerning its habitat in the outer world. There is evidence that the infection may be transmitted from animals to man or from one individual to another.

The clinical course and prognosis of the disease depend upon its extent and localization, and upon the occurrence of secondary infections with the pyogenic cocci. The last mentioned is an unfavorable complication. In extensive involvement of internal organs there may be fever and marked disturbance of nutrition. In localizations about the buccal cavity and neck there is good evidence that many of these cases will heal by the simplest surgical treatment or even spontaneously. Probably many such cases go unrecognized. The bones of the jaw are rarely affected in man. The occurrence, in the soft parts of the neck or cheek near the jaw, or hard swellings which have arisen painlessly and present a fluctuating or suppurating focus, should excite suspicion of actinomycosis.

Actinomycosis of the intestines is characterized by extensive induration due to a marked development of peritoneal adhesions and to the extension of the process to the abdominal wall and neighboring organs. As before mentioned, the tendency to the formation of the fistulae is marked. Metastatic involvement of the liver is not unusual. The prognosis must be regarded as unfavorable in general.

The diagnosis of actinomycosis is made by finding the characteristic granules or colonies of the organism in the lesions or in the discharges from the same. These in some instances may be so obscure as to escape observation with the naked eye. Microscopic examination is necessary to distinguish the colonies or granules from small pieces of necrotic tissue and masses of pus cells. The pus or suspected material should be spread on a piece of glass. In this way the granules will be more easily seen. In actinomycosis of the lungs the organism may be found in the sputa and in the discharges from fistulae in the wall of the thorax.

In the sputum the parasite is to be distinguished from the common leptothrix of the mouth by the fact that the filaments of the latter are larger, straighter, and thicker, and do not branch as do the filaments of actinomycosis. The leptothrix filaments are also frequently adherent to epithelial cells.

The following case history concerns Miss D. H., age 25, a native of Saratoga Springs and an office attendant by occupation.

Family History.—There was no inheritance of tuberculosis, cancer or syphilitic taint.

Personal History.—Patient had suffered the usual diseases of childhood all of which had resulted in a complete recovery. She had never had typhoid fever, pneumonia or rheumatism.

Physical Examination.—She was normally developed and fairly well-nourished individual of little more than the average height with the body functions all normal, except irregular menses. There was no pathology of the heart, lungs, liver, spleen or kidneys. The alveolar arches of the mouth were not perfect, and her teeth had a tendency to decay quite badly which had necessitated considerable dental work upon them. Her blood index showed here haemoglobin to be 58%.

In July, 1915, she noticed a pain developing in the region of the angle of the lower maxillae on the left side. Attention was given to her teeth to determine the cause of this pain and every possible source of dental difficulty was corrected without relief. A radiograph was then taken of the lower jaw which revealed the presence of a wisdom tooth lying horizontally within the bone with the crown impinging upon the roots of the tooth approximating it in front. About September 20th of the same year this tooth was removed by Dr. A. C. Rich under ether by drilling away the superimposed bone and extracting the tooth by means of small gouges for that purpose. Considerable mutilation of the surrounding tissue and bone necessarily resulted from this operation. Following this operative procedure the patient remained at home for a short period for the purpose of restoring her bodily vigor and increasing her blood index, both of which had become markedly lowered as a result of her suffering from July to October. The patient stated that it was her custom to wander through the fields and frequently pull a blade of grass and chew it. Subsequent to the extraction of this offending wisdom tooth the pain reappeared in about the same region and there also appeared a slight swelling over the angle of the jaw on the outer surface. This swelling was hard and fibrous to the feel and was quite painful. Both the pain and the swelling progressed for the worse for two or three weeks when it seemed to the writer that the tumorous mass contained pus. Under gas anasthesis this was freely incised. A small quantity of thick, bloody pus was found lying directly against the ramus of the jaw. The wound was drained and dressed daily for a period of two weeks with no relief of the symptoms. In fact the growth during this interval had extended upward and downward covering an area corresponding to the parotid gland and some of the lymphatic glands of the neck below the angle of the jaw. At this time anasthesia was again administered and more extensive incisions made and currettage of the sinuses done. The wounds were again drained and dressed daily and again there was no abatement of the symptoms. About Christmas time the lesion had extended through the temporal region and muscle under the scalp and well down on the neck. The face was much swollen and the tissues were somewhat boggy and oedematous to the feel. During January, on the advice of Dr. Gordinier, the wounds were again opened and thoroughly curretted and the scrapings sent to the pathologist at the Samaritan Hospital for diagnosis. Positive diagnosis for actinomycosis was reported. The results of the medical and surgical efforts thus far made were unsatisfactory, and by the middle of February it again became necessary to scrape away the tumorous masses through the old sinuses formed by the original incisions. The emaciation and cachexia had been progressive from the beginning of the attack in September and was now extreme. In March cultures were secured from this growth by means of another anesthesia and sent to the New York State Hygienic Laboratory with the request that autogenous vaccine be made therefrom. This was promptly complied with and the vaccine administered faithfully as per instructions from Dr. Wordsworth. For a time there appeared to be some improvement in her physical condition as well as in the lesion, but this was temporary, and the disease progressed rapidly for the worse until it ended fatally about the middle of May.

The etiology of this case was doubtless a result of her carelessness in indiscriminately chewing blades of grass during her vacation period following the extraction of the impact wisdom tooth. I am of the firm opinion that the actinomycosis infection entered the tissues through this wound.

Permit me to add that all remedies known to be of any value in the treatment of this disease were administered faithfully and heroically throughout the entire course of the disease, all of which made no apparent impression. I secured the valuable judgment in consultation of Dr. Rich for the purpose of determining what factors, if any, there could be in relation to the teeth and also Dr. Downs of this city and Dr. Gordinier of Troy, to whom I was indebted for the diagnosis.

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BENDER HYGIENIC LABORATORY.

Report of the Director for the Year Ending August 31, 1916.

By ELLIS KELLERT, M. D.

To the Trustees of the Bender Hygienic Laboratory:

Gentlemen.—I have the honor to submit my report for the year ending August 31, 1916.

It is my pleasure to record a very active year in the work of the laboratory. From the number of examinations made and the variety of specimens examined it appears that physicians are gradually feeling the influence of the Bender Laboratory and now realize to a greater degree than heretofore the value to themselves and to patients of pathologic reports. The results as shown in the tables appended below are most gratifying and augur well for the future practice of scientific medicine in and about Albany, a hope expressed by Dr. R. M. Pearce in his last annual report. It is needless to emphasize the importance to the physician and surgeon of complete examinations and the value of careful records. Frequent requests are received regarding specimens submitted years ago and the lack of such records would have resulted in serious embarrassment to the physician.

A case in point is the experience of a local surgeon, who removed a diseased appendix from a young man. A year later this same patient died in a hospital in a distant city. A necropsy was performed and the report stated that an appendix was found. This observation was not substantiated by any further data and our own records clearly indicated that an appendix was received on the date of the first operation and a microscopic section was found on file.

I. Organization.

In January 1916, Dr. M. B. Beecroft (A. M. C. 1913) resigned to accept a position in pathology at the Kings County Hospital, Brooklyn. In April 1916, Dr. G. V. Genzmer (A. M. C. 1913) also resigned to accept a similar position in the same institution. They were succeeded by Dr. L. J. Early (A. M. C. 1914) who had just completed a year of service in the Albany Hospital, and Dr. S. H. Curtis (A. M. C. 1914) then completing a year as resident physician at the Samaritan Hospital in Troy.

At this time and subsequently, it became evident that laboratory trained men were difficult to obtain. Inquiry elicited the fact that laboratories all over the country were seeking assistants. With your approval granted a year ago we have endeavored to obtain a graduate in medicine, trained in bacteriology, to act as assistant director, but without success. Trained men were available but at a salary far beyond the means of the laboratory. I would recommend to your consideration the plan of promoting one of our own assistants, who shall qualify for this position. This would enable us to retain the services of a man acquainted with our varied routine and one possessed of the confidence of the physicians of the city. Also, the prospect of promotion would act as an incentive to the assistants and perhaps result in a more keen interest in the activities of the laboratory.

During the past ten years, Dr. La Salle Archambault has been an active worker in the laboratory and interested in its success. He has labored most diligently as teacher and investigator and his contributions to the science of neurology have received wide recognition, both at home and abroad. Because of his earnest endeavors and the valuable services he is frequently able to offer the laboratory, I would recommend to your board that he be appointed a member of the staff.

II. The Work of the Laboratory.

During the past year our contract with the city has been highly satisfactory from the standpoint of service. Because of the increase in the number of specimens for the Wassermann reaction, this test is now performed twice a week, each Tuesday and Friday and nearly the entire time of a technician is devoted to the work. For the collection of blood, a convenient container is provided with a sterile needle and these are distributed to the various stations about the city, of which there are now eight in number.

The laboratory is constantly investigating new diagnostic procedures as they arise; when found practical and of value, they are incorporated as a part of the routine. Thus, after a year of observation it was decided to send out reports on cerebrospinal fluid examined by Lange's colloidal gold method. This test differentiates certain diseases of the central nervous system and is most useful in cases of syphilis and tuberculosis. A report of our results with this new test is now in preparation.

The following tables are arranged to convey a better idea of the material received at the laboratory. The tabulation includes not only the variety of specimens, but also the sex, age, and the results of the examination. Such figures it is believed may eventually prove of some value from a statistical standpoint, and their value will be greatly enhanced when it becomes possible to use the clinical data.

TABLE I

ROUTINE EXAMINATIONS MADE AT THE BENDER HYGIENIC LABORATORY FROM SEPT. 1, 1915 TO SEPT. 1, 1916

	General bacteriology and clinico-pathological examinations	Surgical specimens	Post-mortem examinations	Total
Albany Hospital	3,164	1,297	31	4,492
St. Peter's Hospital	368	596	10	974
Child's Hospital and St. Margaret's Home	45	54	5	104
City Department of Health	6,203	2	....	6,205
Homeopathic Hospital	315	317	3	635
All other sources	1,762	436	29	2,227
Total	11,857	2,702	78	14,637

2,548 should be subtracted from the bacteriological total. This figure represents the diagnostic work, chiefly for Pavilion G., also Wassermann tests performed for the various hospitals, which are included under City Health Work. Corrected total number of specimens exam. 12,089.

TABLE II (Special tests included in Table I.)

	1912	1913	1914	1915	1916
Animal inoculations	64	23	63	86	134
Wassermann reactions	412	621	904	1,153	1,465
Blood cultures	29	33	36	59	68
Autogenous vaccines prepared	15	45	49	58	116
Milk examinations	25	137	366	580	1,104
Totals	545	859	1,418	1,936	2,887

TABLE III—General Pathological Specimens

	Male	Female	Total	Max. age	Min. age
Breast:					
Chronic inflammation	4	24	28	63	23
Cystic	..	2	2	35	..
Sarcoma	..	1	1	62	..
Carcinoma	1	47	48	72	29
Adeno-fibroma	..	3	3	38	22
All other tumors	..	13	13	41	9
Carcinoma:					
Lip	13	..	13	70	31
Skin	2	2	4	74	37
All others	37	19	56	72	35
Gall-bladder:					
Acute and chronic inflammation	2	6	8	54	30
Chronic inflammation	6	13	19	65	31
Carcinoma	..	1	1	..	..
Calculus	6	12	18	54	24
Hemorrhoids	33	25	58	68	25
Hernia sac	86	22	108	78	8
Hodgkin's disease	..	7	7	49	31
Kidneys:					
Calculus	..	3	3	44	29
Acute inflammation	1	2	3	48	..
Tuberculosis	1	..	1	..	..
Lymph nodes—neck:					
Tuberculosis	18	22	40	57	2½
Sarcoma	1	..	1	48	..
Carcinoma	9	2	11	77	35
Others	10	8	18	68	21
Prostate gland:					
Chronic inflammation	17	..	17	76	47
Lipoma	1	..	1	54	..
Carcinoma	4	..	4	59	58
Sarcoma	10	10	20	69	2½
Testicle:					
Tuberculosis	4	..	4	57	33
Syphilis	1	..	1	29	..
Acute and chronic inflammation	4	..	4	54	50
Thyroid glands:					
Chronic inflammation	..	10	10	47	22
Colloid goitre	2	13	15	59	16
Exophthalmic goitre	1	6	7	62	24
Adenoma	..	2	2	38	36
Tuberculosis of bone	1	3	4	60	40
Other specimens of tuberculosis	11	4	15	63	22
All other specimens	322	412	734	76	4 mo.

TABLE IV

SURGICAL SPECIMENS CONSISTING OF UTERUS, ADNEXA AND APPENDIX

	Married	Civil condition not indicated	Total	Max. age	Min. age
Uterus:					
Chronic metritis	29	16	45	67	21
Hypertrophy	1	7	8	60	24
Leiomyoma and hypertrophy	48	29	77	71	26
Negative	23	4	27	75	27
Atrophy	5	2	7	58	28
Carcinoma	5	5	10	66	39
Sarcoma	2	..	2	49	..
Endometrium:					
Glandular hyperplasia	22	10	32	59	21
Carcinoma	6	1	7	71	31
Interstitial hyperplasia	4	3	7	49	34
Negative	41	17	58	75	18
Acute inflammation	5	..	5	48	21
Chronic inflammation	6	..	6	50	39
Cervix:					
Hypertrophy	32	11	43	71	23
Nabothian cysts	18	13	31	75	33
Chronic inflammation	28	5	33	71	21
Negative	19	8	27	56	21
Carcinoma	11	..	11	62	35
Tubes:					
Negative	35	18	53	67	24
Carcinoma	1	..	1	31	..
Cysts	17	10	27	60	26
Acute inflammation	6	..	6	71	30
Chronic inflammation	27	15	42	60	23
Acute and chronic inflammation	14	8	22	53	19
Tuberculous salpingitis	4	1	5	53	20
Lipomata	1	..	1	57	..
Ovaries:					
Negative	52	12	64	65	26
Chronic inflammation	19	10	29	53	18
Simple cysts	28	18	46	67	22
Ovarian cysts	3	3	6	39	25
Dermoid cysts	3	2	5	66	24
Carcinoma	1	..	1	56	..
Sarcoma	1	..	1	..	..
Tuberculosis	..	3	3	36	34
All other tumors	4	3	7	57	36
*Appendix:					
Retrograde changes	12	2	14	67	28
Chronic inflammation	28	17	45	60	21
Chronic obliterating inflammation	12	1	13	55	31
Negative	15	7	22	60	21
Total				197	cases

* Removed during hysterectomy.

TABLE V

APPENDICES

	Male	Max. age	Min. age	Female	Max. age	Min. age	Total
Retrograde changes	17	64	17	41	51	10	58
Acute inflammation	20	59	6	9	44	12	29
Chronic inflammation	71	58	4	174	63	2½	245
Acute and chronic inflammation	49	69	4	32	55	7	81
Acute gangrenous	36	58	4	13	47	8	49
Tuberculous periappendicitis	1	19	..	2	21	20	3
Chronic obliterating inflammation	15	52	18	27	55	20	42
Periappendicitis	4	45	11	4	57	23	8
Negative	6	39	6	13	55	12	19
Total							534 cases

TABLE VI

UTERINE CURETTINGS

	Married	Max. age	Min. age	Civil condition not indicated	Max. age	Min. age	Total
Interstitial hyperplasia	2	28	25	1	..	..	3
Glandular hyperplasia	27	57	21	8	49	22	35
Acute and chronic inflammation	11	35	21	5	38	22	16
Carcinoma	5	71	48	1	55	..	6
Negative	16	59	24	10	35	20	26
Pregnancy	7	41	21	2	38	35	9
Total							95 cases

TABLE VII

Surgical Specimens Consisting of Appendix, Tube and Ovary

	Married	Civil condition not indicated	Total	Max. age	Min. age
Appendix:					
Retrograde changes	3	3	6	36	21
Chronic inflammation	12	8	20	35	20
Acute and chronic inflammation	1	1	2	45	35
Chronic periappendicitis	1	1	2	27	24
Negative	4	7	11	42	19
Fallopian tubes:					
Chronic salpingitis	9	9	18	42	17
Acute and chronic salpingitis	7	5	12	45	21
Acute congestion	..	1	1	17	..
Pregnancy	..	2	2	35	25
Haemotosalpinx	2	2	4	35	19
Hydrosalpinx	1	..	1	26	..
Atrophy	..	1	1	51	..
Peritoneal cysts	2	..	2	28	27
Negative	3	6	9	33	15
Ovaries:					
Chronic inflammation	2	..	2	..	..
Acute and chronic inflammation	1	2	3	23	21
Simple cyst	5	9	14	35	15
Unilocular cyst	2	3	5	33	25
Haemorrhagic cyst	..	3	3	36	28
Parovarian cyst	7	1	8	45	21
Adeno cystoma	3	..	3	41	..
Negative	6	6	12	51	17
Periovaritis	7	1	8	45	21
Dermoid cyst	1	..	1	24	..
Total				52 cases	

TABLE VIII

Post-mortem Examinations

Sex	Age	Clinical diagnosis	Chief anatomical diagnoses
Female	44 years	Pulmonary tuberculosis	Pulmonary and mesenteric tuberculosis
Female	23 years	Tumor of brain	Cerebellar cyst
Male	29 years	Typhoid fever	Typhoid ulcerations of intestine
Female	46 years	Peritonitis	Perforated gastric ulcer. General peritonitis
Female	58 years	Cirrhosis of liver	Portal cirrhosis of liver

TABLE VIII—Continued

Sex	Age	Clinical diagnosis	Chief anatomical diagnoses
Female...	64 years..	Oedema of brain........	Oedema of brain. Dilated ventricles Oedema of lungs
Male.....	38 years..	Chronic appendicitis....	Abscess of abdominal wall. Streptococcus pyogenes
Female...	17 years..	Pulmonary tuberculosis.	Pulmonary tuberculosis. Meningeal tuberculosis
Female...	40 years..	Carcinoma of intestine..	Multiple carcinomata of colon
Male.....	38 years..	Pulmonary abscess......	Pulmonary abscess, pyonephrosis (staphylococcus pyogenes aureus)
Male.....	24 years..	Typhoid fever..........	Typhoid ulcerations of ileum and colon. Pneumonia
Female...	62 years..	Carcinoma of rectum and pylorus..............	Carcinoma of rectum. Carcinoma of pylorus
Female...	43 years..	Cerebral hemorrhage (left side)................	Cerebral hemorrhage (left internal capsule) Acute peritonitis (pneumococcus) Lobar pneumonia
Female...	33 years..	Tumor of brain.........	Glioma (right parietal lobe)
Female...	56 years..	Pulmonary tuberculosis. Cerebral hemorrhage..	Pulmonary tuberculosis. Cerebral hemorrhage
Male.....	38 years..	Cirrhosis of liver........	Biliary (hypertrophic cirrhosis of liver)
Male.....	38 years..	Not made..............	Hypertrophic cirrhosis of liver. Hypertrophy of spleen. Ascites
Male.....	5 years..	Stenosis of pylorus......	Congenital atresia of small and large intestine
Male.....	46 years..	Addison's disease.......	Tuberculosis of lungs and adrenal glands
Male.....	68 years..	Carcinoma of prostate...	Carcinoma of prostate. Pleural effusion
Female...	16 years..	Purpura...............	Purpura. Bronchopneumonia
Male.....	35 years..	Tumor of pelvic bones...	Sarcoma of abdominal wall pelvic bones, liver and lung
Female...	48 years..	Not made..............	Gangrene of ileum, acute dilatation of stomach
Female...	5 years..	Acute colitis............	Acute parenchymatous nephritis, acute iliocolitis. Broncho-pneumonia
Male.....	28 years..	Cerebral abscess........	Abscess, left temporal lobe. Acute otitis-media
Female...	70 years..	Carcinoma of stomach...	Chronic gastritis with marked dilatation
Female...	46 years..	Carcinoma.............	Carcinoma of pancreas. Extensive metastases to liver
Female...	6 years..	Brain tumor............	Cerebellar lympho-sarcoma

TABLE VIII—Continued

Sex	Age	Clinical diagnosis	Chief anatomical diagnoses
Male	68 years	Not made	Acute ulcerative colitis, acute peritonitis, lobar pneumonia, marked arteriosclerosis
Male	43 years	Aneurysm of aorta	Aneurysm of thoracic and abdominal aorta, empyema
Male	40 years	Chronic nephritis	Chronic parenchymatous nephritis
Male	69 years	Carcinoma of prostate	Carcinoma of prostate
Male	60 years		Chronic diffuse nephritis. Hypertrophy of heart
Male	5 months	Not made	Staphylococcus pyogenes aureus bacteriaemia
Male	1 year	Pneumonia	Lobar pneumonia (Frielander's bacillus)
Male	3 months	Not made	Oedema of brain. Myxoma of cord
Male	35 years	Syphilitic meningitis	Chronic lepto-meningitis (syphilitic)
Male	45 years	Carcinoma of pancreas	Carcinoma of pancreas with metastases to liver
Male	4 years	Pneumonia	Broncho-pneumonia
Female	2½ years	Pneumonia	Broncho-pneumonia. Acute bronchitis
Male	41 years	Tuberculosis	Miliary tuberculosis. Tuberculous peritonitis
Male	17 months	Hydrocephalus	Megalocephaly. External hydrocephaly
Female	15 years	Otitismedia with cerebral abscess	Acute lepto-meningitis ((streptococcus) Otitismedia
Female	29 years		Acute endocarditis
Male	55 years	Tumor of brain	Glioma, parietal and temporal lobes (left)
Male	51 years	Myocardial insufficiency.	Fatty infiltration of heart. Acute dilatation
Male	22 years	Anaemia	Anaemia. Acute pneumonitis
Female	53 years	Paget's disease of breast Tumor of brain	Metastatic carcinoma of brain
Male	73 years	Carcinoma of stomach	Carcinoma of stomach with metastases to pancreas and liver
Female	39 years	Carcinoma of breast. Syphilis of rectum	Carcinoma of breast. Syphilis of rectum and perforation. Acute peritonitis
Male	55 years	Abscess of lung	Abscess of lung. Organizing pneumonia
Female	50 years	Cirrhosis of liver	Hanot's cirrhosis of liver. Acute and chronic nephritis

TABLE VIII—Continued

Sex	Age	Clinical diagnosis	Chief anatomical diagnoses
Male	6 days	Not made	Hypertrophy of thymus
Male	2 years	Lobar-pneumonia	Broncho-pneumonia
Male	36 years	Pernicious anaemia. Pleurisy with effusion	Miliary tuberculosis. Ascites. Pleural effusion
Female	34 years	Syphilitic or alcoholic meningitis	Fatty cirrhosis of liver. Oedema of brain
Female	70 years	Myocardial insufficiency.	Rupture of heart. Coronary Thrombosis. Fatty degeneration of heart
Male	41 years	Carcinoma of pylorus	Fibrosis of pylorus. (Fibroplastic gastritis.) Ulcerative colitis
Male	45 years	Myocardial insufficiency sciatic neuritis. Pulmonary thrombosis	Sarcoma of pleura. Pulmonary thrombosis
Male	35 years	Acute cholecystitis. Diabetes	Chronic pancreatitis
Male	34 years	Addison's disease	Atrophy of adrenal gland. Chronic pericarditis
Female	36 years		Acute and chronic colitis. Acute pyonephrosis
Male	45 years	Chronic interstitial nephritis	Chronic interstitial nephritis. Mural thrombi of heart. Infarction of lung and kidney
Male	59 years	Pneumonia	Massive lobar pneumonia
Male	55 years		Hypertrophy and dilatation of heart. Oedema of brain
Male	45 years	Pulmonary infarct	Pulmonary infarct. Gangrene of lung. Mural thrombi of heart
Male	75 years	Intestinal obstruction	Torsion of mesentery. Marked arteriosclerosis
Female	10 years	Nephritis	Acute intracapillary glomero-nephritis
Male	New born.	Not made	Meningeal hemorrhage
Female	20 months	Pneumonia	Pneumonia
Female	34 years	Pulmonary and peritoneal tuberculosis	Pulmonary tuberculosis. Tuberculous peritonitis
Male	49 years	Aneurysm	Hypertrophy of heart. Coronary sclerosis
Female	13 months	Intestinal catarrh	Acute congestion of organs
Female	4 years	Poliomyelitis	Poliomyelitis
Female	New born.	Premature birth	Premature birth
Male	7 days	Obstruction of oesophagus	Congenital atresia of the oesophagus

Among the more interesting cases of which an exceptionally large number were encountered during the year, are the following: anencephaly and spinabifida, fibroma of the intestine causing intussusception, Hanot's cirrhosis of the liver, hypertrophy of the brain in an infant, multiple metastases to the brain from Paget's disease of the nipple, double glioma of the brain, brain abscess due to the B. proteus, congenital atresia of the intestine, congenital atresia of oesophagus, two cases of granuloma fungoides, two cases of sarcoma of the uterus, and a case of a peculiar giant-celled reaction in the subcutaneous fat of an infant.

III. Teaching.

During the school year 1915 to 1916 the following laboratory courses were given for the students of the Albany Medical College:

Course	Hours per week	Weeks	
1. Pathology and bacteriology.....	36	12	Drs. Kellert, Beecroft and Genzmer
2. Anatomy and pathology of the nervous system..............	3	32	Dr. Archambault
3. Experimental physiology........	24	17	Dr. Gruber
4. Experimental pharmacology.....	8	13	Dr. Gruber
5. Clinical pathology..............	3	32	Dr. Gorham
6. Surgical pathology.............	2½	24	Dr. Donhauser
7. Bacteriology for nurses..........	1	10	Dr. Kellert

The courses in histology, physiology, and clinical pathology, formerly held at the Bender Laboratory, are now being given at the Albany Medical College where laboratories have been built for their accommodation. The transfer of these studies has relieved the staff at the Bender Laboratory but slightly, because with their removal there has also been withdrawn one assistant who formerly took active part in the teaching and routine.

Under the new plan of teaching adopted by the medical college, the so-called "concentration or block system," the work in pathology and bacteriology now occupies 36 hours each week during the teaching period instead of 12 hours as in former years. This has necessitated a greatly increased effort on the part of the staff in order that no delay occur in reporting on routine specimens. If the same plan of teaching is to prevail, it will be highly desirable to secure another medical assistant or at least a technician.

IV. FINANCIAL STATEMENT.

The following statement of accounts indicates the earnings and expenditures of the office of the director:

LABORATORY INCOME.

From Sept. 1, 1915, *to Sept.* 1, 1916.

Balance on hand	$598 62
Contracts with hospitals and physicians	1,628 36
Examination of specimens other than above noted	2,759 83
Miscellaneous	143 97
Total	$5,130 78

LABORATORY EXPENSES.

From Sept. 1, 1915, *to Sept.* 1, 1916.

Salaries	$3,654 70
Petty accounts, including office supplies, express, postage stamps, refund to students for locker keys, and carfares	145 95
Telephone	81 40
Laboratory supplies and equipment	951 60
Books	96 93
Stationery	64 53
Laundry	32 67
Animals and maintenance	255 52
Total	$5,283 30

Total expenditures for the year	$5,283 30
Total income for the year	5,130 78
Deficit Sept. 1, 1916	$152 52

We are pleased to add to our list of physicians with whom annual contracts are made, the names of Dr. C. G. McMullen of Schenectady, Dr. J. I. Dowling of Albany and Dr. J. L. Edwards of Hudson. I also wish to acknowledge a very substantial annual contribution from Dr. G. C. Madill of Ogdensburg. These contracts for which sums varying in amount from 300 to 100 dollars are received have proven so eminently satisfactory to those taking advantage of them that the list should be much larger. Thus for a comparatively small sum a physician may have all his diagnostic work performed and be assured that complete records are always available, in addition to the reports which he receives.

From the above account it will be seen that the earnings of the office of the director are steadily decreasing. This may be attributed chiefly to the loss of income from serological examinations which have now become public health measures and fall within the city contract. Locker fees from students have also greatly diminished. In 1914, $407.00 were received from this source, and in 1916 $50.75. This is due to fewer medical students in the college and the withdrawal of certain courses from the laboratory. The augmentation of the salary list has also aided in producing a deficit in the funds of the director.

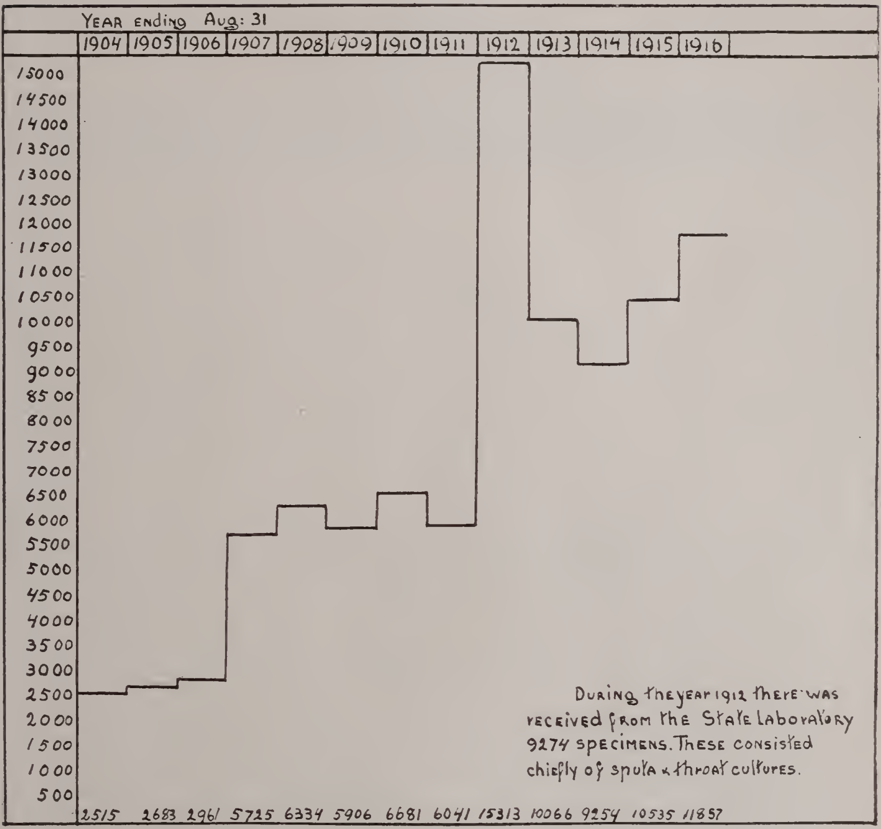
Because of these changes it appears that a readjustment of the finances of the laboratory will be necessary. At the present time, two separate accounts exist—one in the hands of the director of the laboratory and the other in charge of the treasurer of the board of trustees. Because of this arrangement there may arise in the future confusion as to the responsibility for the payment of certain bills. It would, therefore, seem more logical to have but one account.

The following charts serve to illustrate in a graphic manner the yearly total of examinations made since 1914.

In charts I and II there is noted a gradual increase in the number of specimens received. Chart III shows a rapid drop in the number of necropsies performed since the year 1909. This decrease at a time when the laboratory had reached a high degree of efficiency is difficult to understand. An investigation of the records discloses the fact that prior to 1910 many post-mortem examinations were conducted for coroners' physicians who collected and retained the fee for such work. In every instance a complete report with microscopic diagnoses was received by the physician. As the coroners' physicians changed from year to year, fewer and fewer examinations were made until the present time when none are performed for them by the laboratory. No satisfactory explanation having been received, we naturally conclude that the office of the coroner is no longer interested in complete records or in the scientific investigation of disease and death. This is very unfortunate and a distinct loss to the community, for coroner's cases are largely those of sudden or obscure death which usually demand all the facilities of a large and well equipped laboratory.

Chart I

General - Bacteriology



During the year 1912 there was received from the State laboratory 9274 specimens. These consisted chiefly of sputa & throat cultures.

V. Repairs and Additions.

The woodwork on the outside of the building has been repainted, the masonry and front steps repaired. To the brick vault in the cellar now used as a stock room, a double fireproof door has been added. The gas heater and furnace have been cleaned and repaired. A new water still has also been purchased.

For the office there has been provided a filing system made of metal, the sections being of standard size. This forms a very welcome addition to the office furniture. The rapidly accumulating volumes of records and journals will require additional sections. There has also been added a new desk, typewriting machine and chairs.

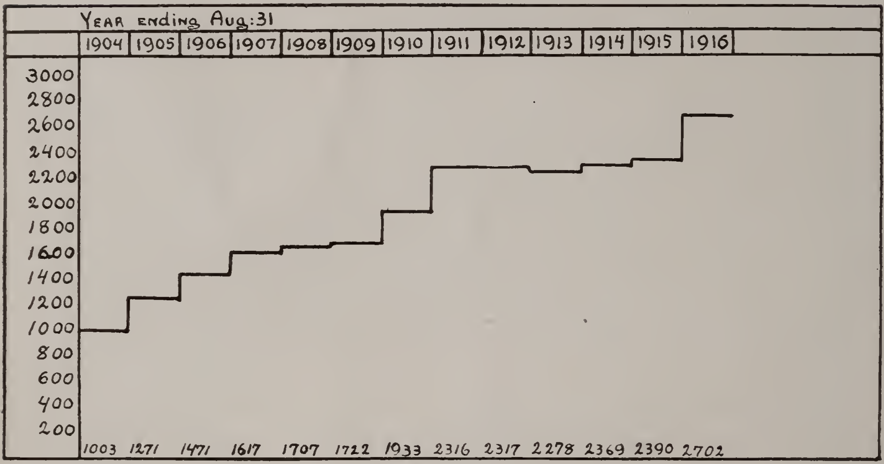


Chart II

Surgical + Specimens

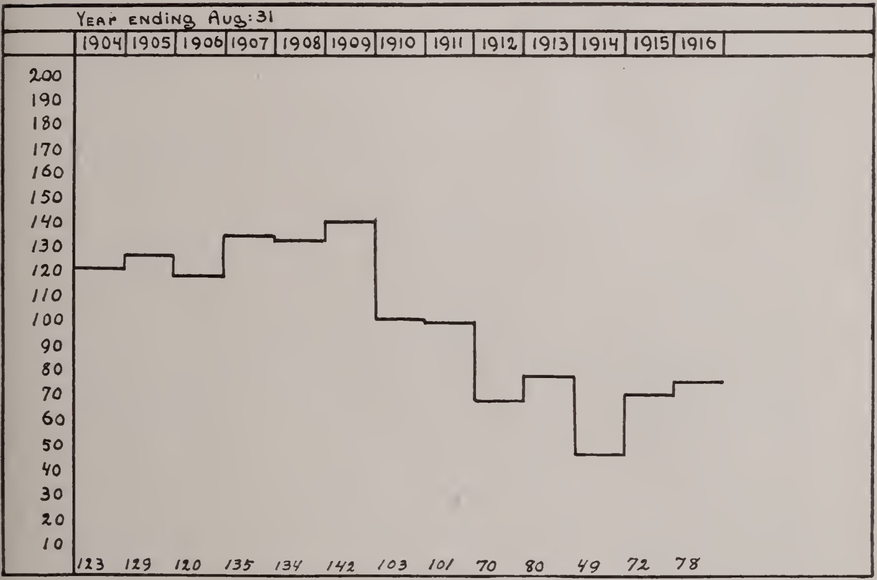
In order to avoid all criticism regarding the disposal of animal tissues, there was purchased a gas incinerator which has proven very satisfactory. Many new window shades have been purchased and the sinks and faucets repaired.

VI. The Central Laboratory Idea.

When this laboratory was first organized in 1895, it was one of the few institutions of its kind in the country. Pathological laboratories then existed only in connection with the best hospitals, larger medical schools and cities of the first class. The rapidly increasing demand for diagnostic services led to the building of laboratories by states, counties and even the smaller cities and hospitals. Laboratory studies dominated the curricula of medical schools and the running expenses mounted so rapidly that these institutions found themselves operating at a great loss. This increase in the cost of medical education continued and has become more manifest in recent years.

Chart III

Post-Mortem-Examinations



Albany found itself in a peculiarly fortunate position. A stately structure with equipment and organization was provided to serve the public, the hospitals and the medical college. The Bender Laboratory situated within easy working distance, became the pathological department of these hospitals and the college, which by their comparatively small contributions helped to maintain this laboratory and received in return services which otherwise would have cost many thousands of dollars annually. That the arrangement is a mutually satisfactory one is attested by the fact that the same relations are maintained year after year. Thus it appears that an experiment in efficiency and economy has been tried and proven successful. There remains but expansion in a similar manner. From inquiries which the director has received, it seems that there is a tendency in the larger cities to centralize laboratory work and avoid the unnecessary expense of duplication.

The example of the Bender Laboratory, a centralized institution serving five hospitals with a total of 1,198 beds and a city of more than 100,000 inhabitants, is being followed by other communities. Because of these advantages, any suggestion or act tending to disturb such an arrangement should meet with great disfavor, particularly from those who would be called upon to give financial support to a number of different laboratories, each performing the same kind of work.

In conclusion I wish to express my appreciation of your active interest and cooperation.

Respectfully submitted,
ELLIS KELLERT, M. D.,
Director.

Clinical and Pathological Notes

Primary Mutiple Fibromyoma of the Omentum. By J. L. DONHAUSER, M. D., Albany, N. Y.

The following case seems worthy of reporting inasmuch as it appears to be a rather unique pathological and surgical condition. The patient was a married colored woman, twenty-eight years of age, who entered the Pennsylvania Hospital, Philadelphia, under the service of Dr. Richard Harte.

The patient complained of severe abdominal pain in both lower abdominal quadrants and of a severe leukorrhoea. Abdominal examination revealed tenderness and some rigidity in both ovarian regions and by bimanual examination it was found that a mass was present, low down and apparently involving both sides. Abdominal tenderness was not present in the upper abdominal quadrants. Diagnosis of bilateral pyosalpinx was made and an operation decided upon.

On opening the abdominal cavity the tubes were seen to be occupied (one on each side) by a large tumor mass which subsequently proved to be pus. A small nodule about the size of a pea was present on the uterine fundus and the peritoneal surface of the left tube contained small nodules each about the size of a pea: in this area the omentum was bound down by a few fairly firm adhesions. The appearance of the greater omentum was interesting, since the whole surface from the gastric border to the free margin was riddled with hard nodules which varied in size from that of a millet seed to that of a large English walnut; it resembled indeed in all respects an omentum which was the site of secondary transplantations or metastases. The great omentum including the tubes and ovaries was removed. The uterus was not removed. The remainder of the abdominal contents was apparently normal.

Macroscopic Description. a. Specimen consists of a mass of fibroareolar tissue containing in its meshes hundreds of nodules, varying in size from that of a millet seed to that of a large English walnut. The tissue as a whole when on the stretch measures approximately 16 x 18 x 5 cm. The nodules are firm, regular and discrete, and on section present a pearly white fibrous appearance with the fibres arranged in a definite whorl-like fashion. Each one contains a distinct fibrous capsule. The cross sections are identical with the ordinary fibromata of the uterus. Careful dissection about the blood vessels which are themselves increased both in size and in number, shows no definite connection of the vessels walls with the tumor masses.

b. Consists of ovaries and tubes bound together by dense fibrous bands. The right tube is thickened and swollen and on excising exudes a fibrino-purulent material. Lying upon and attached to the distal portion of the right tube is a small mass of tissue containing a small nodule; upon the peritoneal surface of the right tube are three small discrete masses which on section appear in all respects like the nodules found in the omentum. The left tube and ovary are bound together by dense fibrous bands; the left tube is somewhat thickened and its lumen contains a small amount of pus.

Anatomic Diagnosis: Primary multiple fibromyoma of omentum; bilateral pyosalpinx; chronic perisalpingitis and periophoritis.

Microscopic Description of the Omentum. Sections have been made through the small and large nodules and serial sections through the blood vessels about the nodules. Various sections show different types of cellular disposition. Some nodules are found to be made up almost entirely of connective tissue in which are distributed a few long elongated narrow cells whose nuclei are vesicular and of a spindle type. Other nodules are composed of about an equal amount of connective tissue and smooth muscle cells while still others appear to contain almost entirely the smooth muscle cell with here and there a strand of connective tissue, arranging the muscle cells in no definite fashion. In all, the vascular supply is great.

Sections through the blood vessels fail to show any definite evidence of tumor growth though here and there may be seen a slight hyperplasia of the musculature. It is to be noted that the amount of muscle tissue present appears to be in direct relation with the size of the nodules. Thus the smaller the nodule the greater the amount of muscle tissue and *vice versa.*

Microscopic Diagnosis: Multiple fibromyoma.

From the above it is evident that the tumors are pure fibromyomata apparently differing in no respects from the fibromyoma of the uterus. The whorl-like appearance of the fibres is the same, the encapsulation is identical and the microscopic appearance shows every evidence of a fibromyomatous tumor. The definite smooth muscle nature of the cell is beautifully shown by Mallory's phosphotungstic acid stain.

Primary tumors of the omentum are rare. Their existence, however, has been known for many years. Cysts, fibromata, sarcomata, lymphangiomata and lipomata have been described. Of the primary tumors, cysts and fibromyomata appear to be the most frequent, while of tumors arising from metastasis from other organs, the carcinomata occupy the most prominent place. Transplantations from papillocystomata of the ovary are reported. A thorough examination of the literature does not reveal a single instance of a primary multiple fibromyoma of the omentum, though cases have been described in which the myomata existing primarily in the stomach colon, and broad ligament have by extension involved the omentum.

The omentum, composed of fibroareolar tissue containing in its meshes numerous blood vessels and lymph channels with a scattering here and there of elastic fibres, affords ample opportunity for the growth of tumors, of the fibroconnective tissue nature, while the disposition of the lymphatics and blood vessels presents facilities for the growth of endotheliomata and lymphangiomata. The direct and indirect connection of the omental lymphatics with the viscera allow of the omentum as being the frequent site for secondary invasion. According to histologists and anatomists, muscle tissue does not exist in the omentum, of course excluding the muscle fibres found in the blood vessels. Fibromyomata existing in the broad ligament have occasionally been reported as transplanting themselves as solitary tumors upon the omentum but in these cases the primary growth was constantly found in the broad ligament. Uterine fibromyomata have likewise been described as extending in solitary tumor fashion to the omentum.

The manner in which fibromyomata may arise from the omentum cannot intelligently be accounted for from the standpoint of the histology of the omentum. The following possibilities exist: (1) That the tumor arises from the blood vessel walls; (2) it is a form of malignant leiomyoma which has assumed the power of metastasis throughout the omentum arising perhaps from the broad ligament; (3) it is an extension, or transplantation of a fibromyomatous tumor of the broad ligament, the stomach, tubes or any other abdominal organ; (4) it has arisen from some muscular fibres which are integral structures of the omentum; (5) that the root of the mesentery which normally contains a few muscle fibres is the primary focus and that the omentum has become secondarily involved by transplantation; (6) that through some metaplasia of the adhesions which had already existed it may have assumed the musculofibrous type of tissue; (7) from the retroperitoneum. The many serial sections which have been made fail to show any evidence that the growths may have arisen from the vessels. In only one series of sections did there appear to be any evidence that there might have been a slight hyperplasia of the muscular wall; this portion is in all probability but a piece of tissue which had been so embedded as to have given a picture of muscle increase on cutting. Malignant leiomyomata, described by Mallory, must of necessity be considered. The sections undoubtedly show a rambling structure of smooth muscle cells. In this case, however, each tumor is definitely encapsulated and no original site of growth outside of the omentum can be demonstrated.

It is impossible to state the origin of this growth. The one theory above all others which seems perhaps the most logical is that the omentum, in this case at least, contained primarily muscle fibres which upon the action of some stimulus formed into tumor growths.

Editorial

> "Imbecile! That is their art; to confound a plain man with dark words, till his hissing flesh lets him know their meaning. Now listen to what I have seen. When a soldier bleeds from a wound in battle, these leeches say, 'Fever. Blood him!' and so they burn the wick at t'other end too. They bleed the bled. Now at fever's heels comes desperate weakness; then the man needs all his blood to live; but these prickers and burners, having no forethought, recking nought of what is sure to come in a few hours, and seeing like brute beasts only what is under their noses, have meantime robbed him of the very blood his hurt had spared him to battle that weakness withal; and so he dies exhausted. Hundreds have I seen so scratched and pricked out of the world, Gerard, and tall fellows too; but lo! if they have the luck to be wounded where no doctor can be had, then they live; this too have I seen. Had I ever outlived that field in Brabant but for my most lucky mischance, lack of chirurgery? The frost choked all my bleeding wounds, and so I lived. A chirurgeon had pricked yet one more hole in this my body with his lance, and drained my last drop out, and my spirit with it. Seeing them thus distraught in bleeding of the bleeding soldier, I place no trust in them; for what slays a veteran may well lay a milk-and-water bourgeois low."
>
> *The Cloister and the Hearth.* CHARLES READE.

The War and the Mind.

The effect of war in the production of insanity has been discussed when occasion has suggested the question, and some surprising conclusions have been reached. The absence of harmful effects has been noted from time to time, and an almost paradoxical condition seems to have arisen in the fact that not only is there no increase of insanity under such severe stress, but actual decrease, and relief from many exciting causes. An interesting comment upon this peculiar illustration of the contradictions of human nature is made by Dr. Robert Hunter Steen, resident physician and superintendent of the City of London Asylum and Hospital for Mental Diseases at Stone, near Dartford. In the fifty-first annual report of the institution, 1916, Dr. Steen comments as follows. Hospital superintendents throughout the world, who have been actively exercised for years to devise methods of diversion for their patients, may be somewhat astonished at Dr. Steen's commendation of Zeppelin bombardments. This form of amusement, however, is not destined to become popular, or even attainable, except in a limited area of the earth's surface, and it is to be hoped, for a limited time.

" Is the war causing an increase in the numbers of the insane? This is a question frequently asked in these days.

" War makes its influence felt in three different classes of the population: first, the combatants; secondly, the relatives of the combatants; thirdly, those at home subjected to altered social conditions.

" The combatants are exposed to privation, exhaustion, fear of sudden death, horrible sights and experiences, wounds, contusions and shakings from mine and shell explosions, poisoning by foul gases and burning by projected fire. This list might be extended indefinitely, and surely it might be supposed that men would stream from the battle area stark staring mad. What are the facts? The County and Borough Asylums record the admission of few soldiers or sailors. Such as have occurred have been cases of general paralysis, or relapses in men previously insane. These cannot be set down to the account of the war. They would have happened in equal numbers had there been peace. Cases have arisen in the military hospitals, but if the insanity is confirmed, these eventually filter through to the asylums and form a part of the above records. Furthermore, it is remarkable that the medical press is unanimously silent with regard to insanity arising from the actual fighting. Numerous cases of shell shock, neurasthenia, and hysteria have been published in the medical journals, and though these have technically come under the heading of unsoundness of mind, they are by no means insane, and as a rule make satisfactory recoveries.

"A greater strain from a mental point of view falls upon the relatives of the combatants. There is the anxiety for the safety of their dear ones and the grief when anxiety is changed to dreadful certainty. There are no indications that the result has been insanity. Doubtless the justice of our cause and the realization that those who have fallen have died to save their country have had a powerful beneficial effect in protecting many from a mental breakdown.

" Thirdly, there has been a social upheaval of vast proportion and far-reaching extent. Among the well-to-do there have been financial losses, business worries, and penury replacing luxury. On the other hand those who are termed the working classes have been enjoying a period of unexampled prosperity. It is generally admitted that in bad times insanity decreases and in good times with abundance of money insanity increases. The reason for this is supposed to be found in the fact that in times of plenty there is more drunkenness, in times of want less drunkenness. In this respect the present period is exceptional, for, though the majority of the people have had more money than they know how to use, less alcoholic liquor has been consumed, and the number of convictions for drunkenness has been reduced. Any increase in insanity in the country at once shows itself in an increase of the admissions to the public mental hospitals. So far the evidence I have been able to procure shows a diminution in the admission rate.

" To sum up: there are so far no evidences that there has been any increase in insanity during the past two and a half years, and it is highly probable that there has been an appreciable decrease.

"Another question frequently put to me is, 'How does the war affect the patients?' This can be quickly answered: 'Very little.' The daily papers circulate through the wards, and though many take a great interest in the events recorded, the total effect is inappreciable. Unfortunately we occupy a position, which, during 1916, was directly in the route most frequented by Zeppelins. Three of these have been seen in flames from our windows, and the spectacle was much enjoyed by many of our patients. Otherwise the noise of dropping bombs, the boom of the guns and the shriek of the shells had very little effect on the hospital population, many of whom slept peacefully throughout the whole series of incidents."

Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, APRIL, 1917.

COMPILED BY WILLIAM FULGRAFF, REGISTRAR.

Deaths.

Consumption	27
Typhoid fever	0
Scarlet fever	0
Measles	0
Whooping cough	0
Diphtheria and croup	3
Grippe	2
Diarrheal diseases	1
Pneumonia	13
Broncho-pneumonia	9
Bright's disease	14
Apoplexy	10
Cancer	12
Accidents and violence	13
Deaths under one year	14
Deaths over seventy years	41
Death rate	18.30
Death rate less non-residents	14.28

Deaths in Institutions.

	Non-res.	Res.
Dominican Convent	0	1
Home for the Aged	2	1
Federation of Labor Camp	1	0
Home of the Friendless	0	1
County Hospital	2	4
Child's Hospital	0	1
Maternity Hospital	0	3
St. Margaret's House	2	3
St. Peter's Hospital	4	5
Homeopathic Hospital	3	4
Albany Hospital	11	17
Albany Hospital Camp	4	4
Albany County Penitentiary	1	0
Public places	6	0
	36	44

Births	169
Still births	6

Bureau of Communicable Disease.

Cases Reported.

Typhoid fever	10
Scarlet fever	20
Diphtheria and croup	6
Chickenpox	45
German measles	41
Measles	108
Whooping-cough	103
Tuberculosis	44
Dysentery	1
Total	278

Number of days quarantine for scarlet fever:

Longest....... 36 Shortest....... 30 Average....... 31

Number of days quarantine for diphtheria:

Longest....... 31 Shortest....... 7 Average....... 16 1/5

Fumigations:

Houses.................... 57 Rooms.................... 318

Milk bottles disinfected... 877

Communicable Disease in Relation to Schools.

	Reported	
	S. F.	M.
Public School No. 1	..	1
Public School No. 2	..	2
Public School No. 5	..	3
Public School No. 6	..	1
Public School No. 8	..	1
Public School No. 10	5	..
Public School No. 13	..	2
Public School No. 14	1	13
Public School No. 15	2	3
Public School No. 16	..	9
Public School No. 17	..	1
Public School No. 18	1	..
Public School No. 20	..	1
Public School No. 21	1	1
Blessed Sacrament School	1	1
High School	..	5
Albany Female Academy	..	1
St. Joseph's Academy	..	1
Lady Help of Christians	..	2
Cathedral School	1	4
St. Ann's School	..	1

TUBERCULOSIS.

Living cases on record April 1, 1917		722
Cases reported:		
By card	44	
Dead cases by certificate	7	
		51
		773
Dead cases previously reported	20	
Dead cases not previously reported	7	
Died out of town	4	
		31
Living cases on record May 1, 1917		742
Total tuberculosis death certificates		27
Non-resident deaths		
Albany Hospital Camp	4	
C. F. L. Pavilion	1	
Directory Hotel	1	
		6
Resident deaths		21

Cases of Communicable Disease Visited.

Tuberculosis	40
Diphtheria	1
Measles	10
Visits to physicians	17
Investigations	6

BENDER LABORATORY REPORT.

Diphtheria.

Initial positive	13
Initial negative	104
Release positive	92
Release negative	144
Suspicious	1
No growth	4
Total	358

Test of Sputum for Tuberculosis.

Positive	24
Negative	91
Total	115

Widals.

Positive	10
Negative	16
Suspicious	3
Total	29

Wassermann tests	138
Milk analyses	82

BUREAU OF NUISANCES.

Complaints made	77
Inspections	93
Plumbing	37
Sanitary	56
Reinspections	126
Plumbing	30
Sanitary	96

HEARINGS.

Cases heard before health officeer	7

Class of Cases.

Filthy premises	5
Plumbing	1
Water	1

Disposition of Cases.

Abated	5
Reinspection	2

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

Inspections	210
Old houses	79
New houses	131
Permits issued	118
Plumbing	97
Building	21
Plans submitted	19
Old buildings	7
New buildings	12
Houses tested	24
Peppermint	3
Water tests	21
Houses examined	19
Re-examined	73
Valid	6
Without cause	13

DEAD ANIMAL REPORT.

Horses removed	26
Dogs removed	178
Cats removed	296

BUREAU OF MARKETS AND MILK.

Public market inspections	25
Market inspections	32
Fish market inspections	2
Packing house inspections	1
Rendering plant inspections	1
Milk depots inspected	9
Stores inspected	224
Milk cans inspected	2
Dairies inspected	2
Lactometer readings	148
Temperature readings	148
Fat tests	84

Sediment tests	69
Chemical tests	40
Bacterial counts	75
Bacterial examinations, special	2
Milk dealers' permits issued	53
Storekeepers' permits issued	304
Complaints investigated	2

Miscellaneous.

Cards posted for communicable disease	102
Cards removed	87
Notices served on schools	276
Notices served on stores and factories	85
Postal card returns sent to doctors	102
Postal card returns received from doctors	87
Inspections and reinspections	111
Work certificates issued to children	13
Vaccinations	30
Cases assigned to health physicians	73
Calls made	170
Garbage collected from 1st district (barrels)	123
Garbage collected from 2d district (barrels)	132
Garbage collected from 3d district (barrels)	112

Hospital and College Notes

Edited by Clarence F. Graham, M. D.

Albany Hospital: Clinical Laboratory.

The following is the report of the Clinical Laboratory for the month ending February 28, 1917:

Single specimens of urine examined	430
24-hour specimens of urine examined	29
Stool specimens examined	21
Gastric contents examined	3
Quantitative sugar estimations	10
Phenolsulphonephthalein tests	9

The following specimens have been delivered to the Bender Laboratory during this month:

Widals	22	Tissues	151
Spinal fluids	8	Wassermanns	55
Cultures	81	Sputums	29

The following is the report of the Clinical Laboratory for the month ending March 31, 1917:

Single specimens of urine examined	672
24-hour specimens of urine examined	14
Stool specimens examined	28
Gastric contents examined	1
Quantitative sugar estimations	5
Phenolsulphonephthalein tests	11

The Chemical Laboratory has made the following examinations during the month:

Blood.	
Non-protein nitrogen	4
Creatinine	4
Uric acid	1
Sugar	1
Fat extractions	7
Milk.	
Total solids	2
Fat	4
Urine.	
Ammonia	1
Ascitic Fluid.	
Creatinine	3
Sugar	3
Non-protein nitrogen	3
Albumin	3
Fat extractions	3

The Chemical Department is cooperating with the dietitian in the analysis of foods and milk.

The following specimens have been delivered to the Bender Laboratory during the month:

Cultures	147	Tissues	125
Spinal fluids	11	Widals	13
Sputum	41	Wassermanns	84

The Electrocardiograph.

The operation of the electrocardiograph as a part of the Clinical Laboratory was begun on March 12th. The supervising laboratory nurse has received a two weeks' training in electrocardiographic technique at the Massachusetts General Hospital under Dr. Paul White, and now has charge of the manipulation of the machine, the development of the plates, and the production and mounting of the prints. The interpretation is given by the medical service, and a typewritten report for entry in the ward history is furnished for each hospital patient.

In the period from March 12th to March 31st, 40 plates were taken and filed, beside a large number of test plates for various purposes. The conditions shown in these tracings include auricular fibrillation, premature ventricular contractions, preponderance of the ventricles, auricular hypertrophy, displacement of the heart, sinus arrhythmia, digitalis effort, and partial block. Each plate is filed with an extra print in an envelope which bears on its face a carbon copy of the description and diagnosis, and the plates are also indexed by diagnosis and patient's name, so that they may be readily available for comparison or for teaching demonstration.

Albany Medical College.

In contemplation of probable war service, the Dean of the College has issued the following notice to students:

"In the present national crisis all patriotic men are asking themselves how each can be of most help. This matter is emphatically brought to the attention of teachers or those intimately associated with vigorous young men of high ideals. It would seem self-evident that each should do such work as he is best fitted to accomplish and to pause and consider what this is before blindly, though patriotically, rushing into service for which he has little or no aptitude or training. In this respect the report of the All Technology Preparedness Committee is of great interest and value. The committee report the purpose of its investigation for service open to students in event of hostilities with Germany. They also show the means of putting this information before the student body and as a result of their study add numerous recommendations. Among the latter it is recommended that 'we should not repeat the mistake made in England of allowing men with *special qualifications* for service to enlist when they might have been more useful behind the lines.' Judging from the policy of Germany it would appear that they (students in the lower classes) would be of more use to their country if they finish their education.

"The report of this committee, prepared in thorough, systematic, and brief form, should appeal strongly to all thinking men. Its application to all students who have had the privilege of higher instruction would seem plain. Men in the arts and general science courses would be of great value in special Red Cross units such as ambulance companies, refreshment units, information attachments, etc.

"Those taking engineering and certain other technical courses should continue their study as suggested in the report above referred to, but these courses might be altered to emphasize the particular military aspects and requirements so that on graduation they would be fitted for such special military service. It would appear that pre-medical students in the colleges and scientific schools should enter the medical school *as soon as possible* and in the meantime practice first aid and ambulance work, as associate members of the base hospital medical school unit. Such work should include first aid to the injured, elementary hygiene and camp sanitation, administration and customs of the service and drill of sanitary troops. This work is outlined in pamphlet 146 of the American Red Cross, January 1, 1917. Thus, in case of the necessary closing of medical schools such pre-medical students would then be of great value in ambulance companies.

"Students in the first and second year of their medical courses should be urged to remain at the school, but the time might be shortened and graduation hastened by more intensive study during the four summer months. Such students would be of far greater value in the base hospital service after acquiring the fundamental sciences.

"Third and fourth year medical students should be urged to go with the base hospital medical school unit to continue their medical study for which credit should be given for the degree. Their work with the base hospital medical school unit would include field hospital service, attendance at lectures, clinics, section teaching, individual experience as surgical dressers, clinical clerks and clinical assistants. On the satisfactory completion of their study such students would be graduated with the degree of M. D. into the medical military service. The importance of not cutting off the supply and the training of efficient physicians will be appreciated when it is realized that in 1905 there were approximately 26,000 medical students in the United States and in 1915 this number was reduced to about 13,000 or approximately a reduction of 100 per cent in ten years. This was due to the raising of the entrance requirements and the general standards of medical education and has had a most beneficial effect upon medicine in this country. Whereas, the number of medical students in time of peace is, doubtless, sufficient to supply the needs of general practice, yet, for some time, hospitals have felt the shortage of younger medical men as seen in the great demand for internes in the majority of our hospitals. In time of war or of threatened war, in addition to the usual call for physicians there will be necessity for a greatly increased number of trained men to aid in *mobilization*, by examination of recruits, administration of preventive inoculations for typhoid and paratyphoid, inspection and supervision of military camps, examination of water supply and sanitary control and medical service in the camps. Whereas in the *field hospitals* many physicians will be required for first aid and ambulance work, in field hospitals, in base hospitals and to care for the increased population of the home hospitals by those invalided from the front, and to serve the civil population.

"Every man should feel that he holds his life and his ability for work in trust for his country, to be rendered up at whatever moment and in whatever way would be most useful. Patriotism should be uppermost in every man's heart, but intelligent, rather than blind, patriotism. If, at this moment, the most intelligently useful course is to remain at college every man should follow this course. When the time comes for action, as it surely will, men should act with only one thought and one desire—to do their utmost for their country to which they owe their own liberty and happiness."—(*From the Report of the All Technology Preparedness Committee.*)

Medical News

United States Civil Service Examination.—The United States Civil Service Commission announces an open competitive examination for medical interne, for both men and women, on June 6, 1917, at the places mentioned in the list printed hereon. A vacancy in St. Elizabeths Hospital, Washington, D. C., at $900 a year, with maintenance, and future vacancies requiring similar qualifications will be filled from this examination, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

Male eligibles are desired for the existing vacancy.

The positions are tenable for one year, and pay $75 a month and maintenance. During the year, however, a postgraduate course in mental and neurological diagnostic methods is given, an examination is held, and promotions to the next grade, junior assistant physician, are made. Beyond this there is regular advancement for men whose services are satisfactory. St. Elizabeths Hospital has over 3,000 patients and about 800 employees to care for. In addition to the general medical practice offered, the scientific opportunities in neurology and psychiatry are unsurpassed.

Competitors will be examined in the following subjects, which will have the relative weights indicated:

Subjects.	*Weights.*
1. Anatomy and physiology (general questions on anatomy and physiology, and histologic or minute anatomy).....	10
2. Chemistry, materia medica, and therapeutics (elementary questions in inorganic and organic chemistry, the physiologic action and therapeutic uses and doses of drugs)	15
3. Surgery and surgical pathology (general surgery, surgical diagnosis, the pathology of surgical diseases)..	20
4. General pathology and practice (the symptomatology, etiology, diagnosis, pathology, and treatment of diseases)	25
5. Bacteriology and hygiene (bacteriologic methods, especially those relating to diagnosis; the application of hygienic methods to prophylaxis and treatment)....	15
6. Obstetrics and gynecology (the general practice of obstetrics, diseases of women, their pathology, diagnosis, symptoms, and treatment, medical and surgical)	15
Total	100

Applicants must show that they are graduates of a reputable medical college or that they are senior students in such an institution and expect to graduate within six months from the date of this examination. The names of senior students will not be certified for appointment in the event they attain eligibility in the examination until they have furnished proof of actual graduation.

Applicants must not have graduated previous to the year 1915 unless they have been continuously engaged in hospital, laboratory, or research work along the lines of neurology or psychiatry since graduation, which fact must be specifically shown in the application.

Applicants must be unmarried.

Age, 20 years or over on the date of the examination.

No sample questions of this examination will be furnished.

Applicants must submit to the examiner on the day of the examination their photographs, taken within two years, securely pasted in the space provided on the admission cards sent them after their applications are filed. Tintypes or proofs will not be accepted.

This examination is open to all citizens of the United States who meet the requirements.

Applicants should at once apply for Form 1312, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C., or to the secretary of the United States Civil Service Board at any place mentioned in the list printed hereon. Applications should be properly executed, excluding the medical and county officer's certificates, and filed with the Commission at Washington in time to arrange for the examination at the place selected by the applicant. The exact title of the examination as given at the head of this announcement should be stated in the application.

Children in War Time.—Thousands of children besides war orphans and refugees have been directly affected by the war, according to reports from belligerent countries which have come to the Children's Bureau of the United States Department of Labor. Juvenile delinquency has increased, more children have been employed under adverse conditions, special measures have been necessary to protect the health of mothers and babies, and home life has been broken up by the increased employment of mothers.

The Bureau believes that the experience of other countries should be carefully considered in order that all possible provision may be made to prevent similar harm to children in the United States. The Bureau has therefore begun a brief review of foreign experience, in so far as it can be understood from available reports, and will shortly publish a series of special articles about children in war time.

A preliminary survey of the foreign material emphasizes the importance of a strict enforcement of all child-labor and school-attendance laws and a generous development of infant-welfare work by public and private agencies. The Children's Bureau suggests that a well-planned Baby Week will be more valuable this year than ever before and will gladly send its bulletin of directions for Baby-Week Campaigns to any address.

To those who are especially interested in working children, the Bureau's new report on the Employment-Certificate System in New York State will show certain points which are essential if an age limit for children's work is to be effective.

Vaccination Against Anthrax.—Losses from anthrax, or charbon, which at the present time is responsible for the death of large numbers of live stock in low, moist lands of a more or less mucky character, may be minimized, according to specialists of the United States Department of Agriculture, by the proper use of protective vaccine and the proper disposal of the carcasses of infected animals. This disease affects chiefly cattle and sheep, but none of the domestic animals is exempt, and even man is sometimes a victim. Some centuries ago it is known to have caused the death of more than 60,000 persons in southern Europe. Since that time the disease has apparently become less virulent, but it is still the cause of considerable loss to stock owners.

The preventive vaccine recommended by the Department of Agriculture is a development of the method devised about twenty-five years ago by Pasteur, the famous French savant. Since that time, however, scientists have succeeded in removing many of the objections to Pasteur's vaccine, and the new method is less dangerous to the animals treated and surer in its operation.

In a new publication of the United States Department of Agriculture, Farmers' Bulletin 784, detailed directions for the administration of this treatment are given. The treatment consists, in ordinary cases, of an injection under the skin on one side of the animal, of 10 cubic centimeters of anti-anthrax serum, followed immediately by a similar injection, on the other side of the body, of 1 cubic centimeter of spore vaccine. In the case of sheep, which are peculiarly susceptible to the disease, the quantity of vaccine is reduced to one-fourth of a cubic centimeter.

In the bulletin mentioned, stock owners are warned to obtain the serum and vaccine from reliable manufacturers only, and not to administer the treatment unless the disease has already appeared in the vicinity, or the pastures on which the animals are to be turned out are known to be infected. Careless handling of the vaccine may result in spreading instead of controlling the disease.

The principle underlying this treatment is the same as that which in man has resulted in the minimizing of death from smallpox, typhoid, and other diseases. It consists in conferring upon men or animals an artificial immunity to the infection to which they are susceptible. Just how this immunity is conferred is a complicated scientific problem, but it is known that under certain conditions the introduction into the body of a very much weakened form of the germ that causes the disease will build up in the body a resistance that will protect it from subsequent attacks of the same disease in its normal and more virulent form. Anthrax affords an interesting example of the practical working out of this fact. A fly can easily carry a sufficient quantity of blood from an animal infected with this disease to kill a horse. Nevertheless, by repeated inoculations, scientists have succeded in developing such a high degree of immunity in a horse that the animal has been able to withstand the injection of more than a pint of the most virulent anthrax culture obtainable. This, of course, is a much higher degree of immunity than is required to insure an animal against ordinary infection.

The cause of anthrax is a minute germ which multiplies rapidly in the body, especially in the blood, and produces poisonous substances which ordinarily cause death. The symptoms of the disease resemble, in certain respects, those of tick fever and blackleg. The differences which will enable stock owners to distinguish it from them are described in detail in the bulletin already mentioned. In acute cases, however, medicinal treatment is seldom effective. For this reason the best methods of combating the disease are to vaccinate all animals likely to be exposed to the infection and by deep burying or cremating of infected carcasses, to make certain that the infection is not allowed to establish itself in pastures.

It is a well-known fact that under certain conditions and in certain forms the germs of the disease are remarkably resistant to heat, cold, and drought. They will remain for a long time in a pasture and be capable of infecting any animals turned out on it. Ordinarily the disease is taken into the body through the mouth with food. It may, however, be absorbed through a wound or even an insignificant scratch. It is in this way that human beings usually become infected, and the name "woolsorter's disease" is derived from the fact that men engaged in sorting wool are particularly liable to contract the disease through infection of scratches or other small wounds or abrasions on their hands.

Experiments have shown that if the carcass of an infected animal is buried promptly without having been opened to permit the entrance of air, the anthrax germs die within a short time. If, on the other hand, the carcass is allowed to remain in the field or is thrown into a near-by stream, the gradual decomposition favors the transformation of the germs into minute bodies known as spores. It is in the form of these spores that the disease persists so long in infected pastures and elsewhere. For this reason great care should be taken never to skin or to cut open the body of an animal killed by anthrax. The blood that flows out when this is done is one of the most dangerous means of spreading the infection, if it is taken into the soil where the conditions favor the development of the spores. In burying carcasses a useful precaution is to cover them with quicklime.

Where the bodies are burned instead of buried, great care should be taken to see that the operation is thoroughly done. Even the earth upon which the carcass has lain should be thoroughly and deeply burned over so that the heat will penetrate to a depth sufficient to kill the germs that may have passed into the soil with fluids from the body.

Personal.—Dr. Richard B. Gray (A. M. C. '10), has removed from 36 Clinton avenue to 228 State St., Albany, N. Y.

—Dr. Daniel V. O'Leary (A. M. C. '04), has removed from 10 Ash Grove place to 357 Delaware avenue, Albany, N. Y.

—Dr. Elmer E. Larkin (A. M. C. '85), of Plattsburgh, N. Y., has been appointed by Governor Whitman a member of the State Parole Board.

—Dr. Frank J. Williams (A. M. C. '13), contributes to a symposium on "Eczema in Children" to the *New York Medical Journal* of April 7, 1917. This is one of the series of articles described as "Monthly Prize Discussions."

—Dr. Thomas W. Jenkins (A. M. C. '93) contributes to the same discussion in the issue of April 14, 1917.

—Dr. John Van Rensselaer Hoff (A. M. C. '71), Colonel, Medical Corps, United States Army, retired, is now in Washington with office at the Army Medical Museum, and is an associate editor of the *Military Surgeon,* a magazine of very high standing and especially influential at this time of military activity.

—Dr. Clive C. McCullough (A. M. C. '89), formerly of Albany, N. Y., has removed to Tampa, Fla.

—Dr. Menas S. Gregory (A. M. C. '98), attending alienist at the Bellevue Hospital, New York City, contributes a paper on "Modern Conception of Inebriety" to the *New York Medical Journal* of April 7, 1917. Dr. Gregory summarizes as follows:

"Man, as a social being, derives most of his conflicts through the necessary adjustment of his social environment. Just as the dynamic concept regards all of the energy transformations as interchangeable and interwoven, one with the other, so all social adjustments are bound together and cannot be separated. Community problems are individual problems. Prostitution, criminology, child welfare, labor legislation, health insurance, and inebriety cannot be adequately understood nor successfully arranged, if they are thought of as isolated problems. They are interdependent and organically related. They all proceed from the innermost and oldest impulses of mankind which are bound up in the unconscious of each individual, producing this vast conglomeration which we call human life and human endeavor. It has been the goal and ideal of the physician to prolong life, diminish pain, and prevent individual illness. With the passing of time, the ideal and goal are ever widening, and we seek further to enrich and make full the living of life. Social maladaptation is the prolific source of the most important diseases which interfere with the richness and fullness of life. The greatest achievement of the future must come to those who can see and grasp these larger opportunities of social medicine."

—Dr. Douglas C. Moriarta (A. M. C. '85), contributes an article on "Radium—A Palliative," to the *American Journal of Obstetrics and Diseases of Women and Children,* Vol. LXXV, No. 1, 1917.

—Announcement has been made of the appointments of the following named alumni to the Medical Reserve Corps by the Federal War Department:

Henry L. K. Shaw ('96), major; Andrew MacFarlane ('87), Edgar A. Vander Veer ('98), John F. Southwell ('10), Edward L. Hanes ('99), George B. Coopernail (1900), captains; Clinton B. Hawn ('06), Erastus Corning ('07), Malcolm Douglas ('04), Joseph A. Lanahan ('99), Ellis Kellert ('09), Frank J. Williams ('13), Thomas W. Jenkins ('93), T. Frederick Doescher ('06), Thomas M. Holmes ('09), Frank H. Hurst ('95), J. Lewi Donhauser ('07), first lieutenants.

Major Henry L. K. Shaw, of Albany, N. Y., and captains George P. Coopernail, of Bedford, N. Y., and Edward L. Hanes, of Rochester, N. Y., are among those who are to report to Major-General Bell at Governors Island.

Died.—Dr. James Cash Coleman (A. M. C. '63) died at his home at Goshen, N. Y., February 26, 1917, from cerebral hemorrhage, aged 73. Dr. Coleman has been assessor of taxes since 1895, for eighteen years was a member of the board of education, and was a veteran of the Civil War.

—Dr. Eleazer E. Rulison (A. M. C. '81) died at his home in Amsterdam, N. Y., on April 2, 1917, of angina pectoris.

In Memoriam

Aurora W. Giddings, M. D.

The *Anoka Herald* publishes the following appreciation of the life of Dr. Aurora W. Giddings:

Dr. Aurora W. Giddings, a pioneer physician of Minnesota, died at his home in Anoka, February 3d, after an illness of about two weeks. He was the son of Aranda P. and Sarah Ives Giddings and is the direct descendant of a line of Colonial soldiers and pioneers.

Dr. Giddings was born in Williamsfield, Ohio, November 2, 1830, and spent his boyhood in Ohio whither his grandfather and family came from Connecticut in 1806. For many years he lived with his uncle at Jefferson, Joshua R. Giddings, who, beside gaining fame as an abolitionist and member of Congress during the troublesome period leading up to the Civil War, was also a soldier of the War of 1812. While at Jefferson he attended the local schools, he went to Allegheny College at Meadeville, Penn., and later secured his medical education at Buffalo and Albany, N. Y., graduating from the Albany Medical College in 1854. He worked his way to an education by teaching school and early laid the foundation for a successful career in the then new West. He came to Minnesota in 1854 and, in October of that year, settled in Anoka and began the practice of medicine here. On September 28, 1856, he married Mary E. Simons whose demise occurred in 1914.

He was a member of Anoka's school board and served at various times, as coroner, on the local board of health and was, at the time of his death, a member of the pension board and of the American and state medical societies.

During the Civil War he served as draft surgeon, was for many years physician for both railroads and was considered by the medical fraternity of his time as one of the leading surgeons of the Northwest.

After fifty years he retired from practice. During the sixty-three years of his residence in Anoka he has lived in the same home to which he came as a pioneer doctor.

One daughter, Mrs. C. E. Chase of Anoka, and five sons, George J. Giddings of Anoka, Jesse Giddings of Washington, Judge Arthur E. Giddings of Anoka, Thaddeus P. Giddings of Minneapolis, and Major Paul Giddings of the regular army, survive him. One son, Augustus, died in infancy.

In his long life in Anoka, Dr. Giddings gained a wide circle of friends through his stern sense of duty to his profession. In the early days it was an ordinary thing for him to drive thirty, fifty and even eighty miles to care for the sick. And even after he became too infirm to continue his active practice many old friends insisted upon his services so long as he was able to get about.

In his passing goes one of the oldest residents in the county and in his life the younger generation may find inspiration for clean living, fidelity to duty and an enviable record for dealing fairly with all with whom he came in contact.

Hiram Becker, M. D.

Dr. Hiram Becker, one of the oldest physicians in practice in Albany county, died on May 6, 1917, at his home, 490 Madison avenue, Albany, after a few days' illness, in his 79th year.

Dr. Becker was born in Schoharie county, attended the elementary schools and entered the Albany Medical College, from which he graduated in 1864. He practiced in Albany for a few years and then removed to Slingerlands, having a large country practice for nearly sixty years. He retired from active practice and made his residence in Albany upon his retirement. He was a genial and active practitioner, and had the confidence of the community.

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Military Medicine

MILITARY INSTRUCTION AND THE "ALBANY IDEA."

(*Continued from April* ANNALS, *p. 200.*)

The admirable work done by the Clinical Club in Albany in military preparedness has been demonstrated by an important pamphlet recently issued. As the scheme is of such far-reaching value, it has been thought wise to reprint it in the ANNALS so that it may receive a larger circulation than the privately distributed pamphlet, and may also have permanent record.

The following named physicians are the members of the Clinical Club who have accomplished this large task: Dr. ARTHUR J. BEDELL, Dr. FREDERICK C. CONWAY, Dr. ERASTUS CORNING, Dr. JOSEPH A. COX, Dr. MALCOLM DOUGLAS, Dr. EUGENE E. HINMAN, Dr. ELLIS KELLERT, Dr. JOSEPH A. LANAHAN, Dr. JOSEPH P. O'BRIEN, Dr. DANIEL V. O'LEARY, Dr. JAMES F. ROONEY, Dr. HARRY RULISON, Dr. JAMES N. VANDER VEER.

PROBLEM NO. 3.

General Situation.

A portion of the Atlantic fleet has been defeated and Boston has been taken by the enemy. The enemy also succeeded in landing a large force on the New Jersey coast and has routed the small force of regulars and National Guard sent to oppose them and New York City has fallen.

The United States troops are slowly retreating in good order from Boston along the Boston-Albany highways and along the New York-Albany highways toward strongly intrenched positions about Albany. Here a large force has been stationed to check the enemy's advance and prevent his taking the city.

From secret information that has come into the commanding general's possession it is known that Albany is the enemy's immediate objective because of the numerous railroads, electric roads and water routes centering here.

Special Situation.

Two engagements of considerable magnitude have taken place during the past week (June 10-17). One occurred near Hudson, N. Y., the other near Pittsfield, Mass., and the wounded, 10,000 in number, have been sent to Albany. The Clinical Club has been charged by the Chief Surgeon division with the disposal of these wounded and the procuring of the supplies needed for their care.

Major-General X has made the following assignments of officers for the carrying on of this work:

For the distribution of those wounded among the various permanent and temporary hospitals.

Dr. A.
Dr. B.
Dr. C.

Transportation.
Dr. D.

Surgical Dressings and Operating Capacity of Hospitals.
Dr. E.
Dr. F.

Antitoxins and Vaccines.
Dr. G.

Food and Clothing.
Dr. H.

Milk.
Dr. I.
Dr. J.

Nursing, Beds and Bedding.
Dr. K.
Dr. L.

Eye and Ear injuries, 400 in number.
Supplies, Operating Facilities, Drugs, etc.
Dr. M.

Extra Buildings.
Dr. N.

Distribution of Wounded (Receiving Officers).

1. *Modes of Delivery of Wounded:* A—Rail, steam lines entering city. Names. Number of tracks available for incoming trains. Probable number to be transported by rail. Estimated time of delivery based on capacity of trains (10 cars per train, 30 wounded per car) and on headway. Consult local railroad officials to check accuracy of estimates.
   B—*River Boat.* Name of company. Address of local office. Capacity of boats. Number available. Schedule running time from point of probable engagement. Consult local officials as above.
   C—Automobile ambulances.
   D—Trolley lines (Interurban). Capacity per car. Number of cars available. Headway.
   E—*Other Vehicles.* No estimate possible. Provision to be made at entrance of city for directing them. See Transportation.

(To be Continued)

VOL. XXXVIII JULY, 1917 No. 7

ALBANY MEDICAL ANNALS

Original Communications

FOLLOWING TRAILS.

Read at the Commencement Exercises of the Albany College of Pharmacy, Chancellors Hall, Albany, N. Y., May 1, 1917.

By ALBERT VANDER VEER, M. D.,
Albany, New York.

Mr. Chairman, Members of the Board of Trustees and of the Faculty, the Graduating Class, Ladies and Gentlemen:

There is much earnest discussion at present in Florida regarding the opening of an old Spanish trail from the Eastern coast on through the Western uplands into the Southern states and leading to the far West. From an historic point of view this long-forgotten trail may prove of great value.

It must be recognized that the civilization of this great Western hemisphere really began in Florida, and, in reading the history of the state, one's curiosity is stirred to know how they overcame the swamps and broad rivers in their travels. The numerous lakes must have been of some help, as they could use their water craft in crossing, and in this there was unity of purpose, for they were compelled to seek the lesser fords and narrowest points of running streams. In considering the recent construction of a beautiful modern bridge across the St. Mary's river, this subject becomes even more interesting, and one must not forget that the principal river, the St. John's, as well as others, have their origin in the extreme Southern portion of the country, the St. John's flowing North, to Jacksonville, for over two hundred miles, then, turning suddenly, flows directly East for twenty miles, to empty into the Atlantic Ocean.

So certain were the original discoverers in their course that they kept far enough to the West and North to "make Tallahassee the central point of this trail."

There is still another trail, much nearer home, in this state, through the Adirondacks, from Plattsburg to Lake Ontario, which is fast being lost in correct location, and a study of which may be of great interest and value to those who are to know more in the near future of this great recreation resort. These, and still other trails, will be referred to later.

When I received, from Dr. Tucker, and his associates—my friends for many years—an invitation, "to deliver the address on this occasion," I accepted with heartfelt thanks, and my thoughts seem since to have centered on a comparison of the different stages passed in my professional career, having a bearing upon the profession of pharmacy, so well represented to-day in the exceedingly good work done by the Albany College of Pharmacy.

In referring to my own mental trail my mind seemed to dwell, first, upon a definition of apothecary, druggist and pharmacist, a question that has been asked me several times during the past few years.

Webster gives the following definitions:

Apothecary: One who prepares and sells drugs or compounds for medical purposes. (In England an apothecary is one of a class of privileged practitioners—a kind of sub-physician. The surgeon apothecary is the ordinary family medical attendant. One who sells drugs and makes up prescriptions is now commonly called in England a druggist or a pharmaceutical chemist. I may say here that when I last visited England there was yet quite a bit of prescribing over the counter, but which was gradually being eliminated.)

Druggist: One who deals in drugs; especially one who buys and sells drugs without compounding them; also a pharmaceutist or apothecary. The same person often carries on the business of the apothecary and druggist.

Pharmacist: One skilled in pharmacy; a pharmaceutist; a druggist.

Dunglison, Medical Dictionary says:

Apothecary: Pharmaceutist, pharmacist, druggist. In every country except Great Britain apothecary means one who sells drugs, makes up prescriptions, etc., a chemist; in addition to those offices, which, indeed, they rarely exercise, except in the case of their own patients, the apothecaries in England form a privileged class of practitioners—a kind of sub-physician.

Druggist: One who sells drugs; apothecary.

Pharmacist: Apothecary; one skilled in pharmacy.

Pharmacy: Art, which teaches the knowledge, choice, preservation, preparation and conservation of medicines. It was formerly divided into Galenical and chymical. The former, called after Galen, embraced the operations to which medicines were subjected without chemistry; the latter, chymical pharmacy or pharmaceutic chymistry, pharmacochymia — (phar-ma-co-chy-mia), comprise the preparation of medicine founded on chemical action of their principles.

Pharmacy is also used in the sense of apothecary shop or drug store, while the New York State Board of Pharmacy says of pharmacy that where not otherwise limited it means the place registered by the board in which drugs, chemicals, medicines, prescriptions or poisons are compounded, dispensed or retailed. Surely, there is merit in considering a profession so well grounded as to take us back to the days of Galen!

What shall we say then as to these various definitions in their application? For all purposes in this paper I shall speak individually of the apothecary, druggist and pharmacist. So much has come under my observation, during a period of more than three score years, I feel I am justified in using this somewhat comprehensive classification. As an item of interest let me state that in the original Faculty of the Albany Medical College there was established a department of Chemistry and Pharmacy and a professor appointed.

During the past decade we have been hearing much regarding scientific precision in medicine and pharmacy, and upon which I must dwell at times in this address.

As you may know, Experimental Pharmacology and Physiological Chemistry is part of the instruction given in our medical colleges.

I may not follow this old mental trail of mine with positive exactness, but I am sure to gather sufficient data to make the comparison between then and now of value. To stimulate your interest permit me to show you, as an object lesson, some of our medical books of centuries past, containing all that was then known upon the use of drugs and their manner of preparation. When these books were written the science of medicine and pharmacy was in its infancy.

In my early days the country store yielded much to the credit of the old-time apothecary, and yet was very far from being precise. Here, for a moment, let me refer to the apothecary side of this useful institution.

In my mind I see there the pink and senna of my early supposed wormy intestinal tract, so near the package of the unprotected genuine salt codfish that there was a joyous mingling of unctuous tastes and odors. Then there was the choice drawer of quassia and pulverized Peruvian bark, of which one taste was enough. The delightful rhubarb was not too far from its associate powdered jalap, their nauseating tastes mingling now and then; and then that appetizing bottle of raw castor oil, that stood in one corner of the window through summer sunshine and winter frost. One can only refer to the delicious aloes, scammony gamboge, ipecac, squills and like efficient drugs, often kept with more of an imaginary line of separation than reality. Then the ever present line of bottles of standard preparations, such as cod liver oil, syrup of wild cherry bark, syrup of sarsaparilla, syrup of tolu, and many such specimens that neither time, season nor flies could prevent from being sold. Then the soothing way in which the merchant of silks and calicoes, of eggs and glass ware, of seeds and candies, would dilate upon this or that patent medicine, carefully removing the outside wrapper, if presenting too much of the appearance of age. Yet, again, the perfume of bergamot, lavender, fennel and like associate drugs; the volatile oils not to be overlooked; and, not to be forgotten, the asafetida and valerian.

Another reminder of the country store, as first aid in sickness and accident, was the hanging from the ceiling of arnica, boneset, catnip, peppers of all sorts, roots or barks for making herb tea, soothing lotions, or expectorant cough mixtures. No matter if several minutes were required to shake the accumulated dust from the tobacco and snuff box shelf below, or the soot from the leaking stovepipe or chimney above to clean that offered for sale. And how delightful was the fragrance from the open orange box and fruits in their season!

All of this was in those early days when trails in every walk in life were being blazed, and the source of much gratitude on the part of the people thus served. God bless, and keep green in our memories, the records made in helping one another in the early struggles in civilizing this great country!

On how many occasions were joy and comfort brought to the homes of the early frontier settlers.

Just here let me emphasize a period when my mental trail had but a litle more than a decade to its credit. In our progressive Mohawk Valley village there was a well-established drug store. It is true the druggist—and just here would be my introduction of the druggist—mingled with his trade all kinds of paints, varnishes, puttys, some hardware and crockery, but on one side of the store were the officinal drugs and patent medicines of the day.

I must have been developing the germ of medicine at that time for my curiosity seemed to have been such he was often good enough to answer my questions and in such a way as to command my confidence and affection, also, in some indescribable manner, to acquaint me with the arrival—when springtime sunshine had cleared a suitable space of dry earth—of an invoice of choice, fine marbles. It is neither the time nor place for me to refer to the added cares such an announcement brought my dear parents.

This druggist was my boyhood friend and never, in after life, did I forget his many kindnesses. There may have been a feeling of reciprocity, for, between school hours he could always rely upon me to perform any errand that might be needed at that particular time. I was not infrequently the go-between 'twixt him and some unfortunate customer who had bought the wrong article, particularly after tasting and wishing it exchanged. This exceptionally good, careful and precise druggist always remained my friend, and after the age of seventy became my loyal patient, though separated many miles from each other.

School years past and my next recollection of the work of the apothecary, or, to be more precise, the pharmacist, was my initiation, as a medical student, in the office of my preceptor, into the art of making pills. I cannot quite call to mind the names of each drug used, but have yet a very impressive remembrance of the dust, and sickening taste, as I attempted to pulverize, in the mortar, Barbadoes aloes with gamboge—pil hydrarg—and, lastly, enough Castile soap to form a mass that, when rolled out into a pencil-shaped rod, could be properly divided into the required number of pills. Coating of a pill was quite unknown, but followed soon after with such preparations as you are now familiar; which has made the administration of medicine in this form so much more agreeable. I must not omit the joy that came to our office when we were introduced to the art of preparing silver-coated pills.

Just here I wish to emphasize the great benefit to the medical student of that period, of the knowledge he acquired of the various drugs, in the preparation of pills, the making of powders, of the tinctures, and syrups; the spreading of adhesive plasters, the preparation of enemas, as well as visiting patients with his preceptor, from time to time, the latter telling him of the family history, symptoms, treatment, and the effect of the remedies he had prepared.

Here, I regret to say, that the days of the preceptor's advice and interest in the medical student have passed.

One great reason for my accepting this invitation to be with you on this occasion is the opportunity it affords me in being with up to date workers, of which Albany has just reason to be exceedingly proud.

My observations carry me back to the early life of the Normal School, then the College, and, now, the State Teachers' College. In all its history no one man had greater influence in moulding its success than Professor Samuel B. Woolworth, who later served for so many years as Librarian and Secretary of the State Board of Regents. For years he was my friend, and his example of persevering industry was most impressive. He belonged to a type of men such as organized the Albany Law School and brought that institution to deserved success.

And yet another illustration was that body of teachers, who, for so many years, controlled the destinies of the Albany Medical College, and brought it up to that high grade of instruction and deserving success, that, when the medical colleges of this country were classified, it was promptly rated in Class A.

Again, in the hospitals of this city, we cannot overlook the great benevolent contributions made to its charities by such broad-minded and far-seeing citizens as constitute the Trustees and Faculty of this College of Pharmacy, the founders of the Medical Department of the State Library, of the Albany Institute and Historical and Art Society, and many other like institutions.

The local and state charities have profited by the efforts of this same class of altruistic workers; therefore, I must be permitted to repeat that I love to mingle with such men, and, when, in 1881, through the efforts of your faithful Dean, a charter was procured for the establishment of the Albany College of Pharmacy, I have ever since watched its career with keenest interest and pride.

I do not come before you to-day with any suggestions of a change in the method of instruction, on the part of the teachers, or lessening the requirements in preparation of the student. Coming, as I do, from an atmosphere of alertness, regarding the preliminary and professional schools of this state, you may have suspected I would bear you a message of concentration and shortening of your work. Not so; we are pleased with your classics and we feel you stand ready to grasp any point that will permit of yet higher scientific attainments.

One by one I have seen the so-called drug departments of our country cross road stores forced to abandon their ill placed distribution of drugs for the medical relief of suffering humanity. The villages have been able to establish a centre of medical supplies, with aseptic dressings, and many of the needed surgical mechanical appliances. Although it may have the soda fountain and tobacco element very prominently, yet, with the coming of the auto, the farmer, the plain workman in the many walks of life, and their families, can hie away to the drug store, that in every way is supplied with the best and purest of fresh drugs, and may seek a pharmacist deemed competent by law to dispense them, while alongside of all this there yet mingles a community of interest.

Emerging from all this to which I have so briefly referred, came the advanced physician who kept his own drugs—this a little later—partly due to his busy life, and no medical student registering with him he began to buy many drugs, in the form of tinctures, fluid extracts, sugar and gelatine-coated pills. This was largely brought about by the development in this country of reliable chemists and druggists manufacturing in large quantities goods which met the approbation of retail druggists and physicians. In the cities there was introduced what were known as the up to date pharmacists.

I well remember, in 1866, forming the acquaintance of one whom I learned to admire for his great knowledge of drugs and his lovely, quiet, charming disposition. About this time there was a rapid development in the number of alkaloids; the group known as the bromides was exploited; chloral, paraldehyde and a vast number of new drugs were presented. Such was the increase that a medical journal was started called "New Remedies." A like department to this day is yet maintained in some of our leading medical journals. Also "the Journal of Pharmacology and Experimental Therapeutics" and many others were inaugurated.

To drop in occasionally and chat with my friend was a great comfort. He gave little encouragement to proprietary and patent medicines but met the call for such preparations in a manly manner. He was straightforward in all his dealings. His was a genuine drug store, and there were to be found all drugs that the medical literature of the day demanded. If, in his studies, investigations, or experiments, he discovered some combination that was efficient, or palatable, he did not resort to advertising, but, in a gentle way, it became known to the profession. He was a gentleman and manly in every respect; no substituting one drug for another would answer for him. No adulteration or short weight would he tolerate. If the drug called for was not in stock the physician was soon made aware of the fact and haste made in procuring what was prescribed; however, I fancy such a condition seldom existed and that few drug stores accumulated such a large number of drugs that, really, only met a trial use. This beloved pharmacist kept his store first on the corner of Green and Division streets, then in South Pearl street, and, finally on the corner of South Pearl and Plain streets.

His name was Louis Sautter.

He was born in Germany in 1832 and educated in an atmosphere of experimental and scientific chemistry, for which that country has become justly recognized and endorsed. He came to this country in 1854 and for forty-three years was respected as a practicing pharmacist, widely known in this state.

Many stories were told of his being able to fill prescriptions coming from abroad and elsewhere, and which brought him a well-earned reputation as a man of science. On one occasion filling a prescription written in French, and making a translation, brought him, for his lifetime, the friendship and support of the leading family physician of Albany.

When the use of tablets first claimed attention, and I might say here that Dr. Fuller, the inventor, and introducer of this manner of compounding drugs, had but a short time previously graduated from the Albany Medical College, this druggist did not criticise in any unfair manner, but suggested that great care should be exercised in the use of tinctures, such as belladonna, aconite, digitalis and like drugs. Time proved his observations correct. Albany has reason to be proud of many of its apothecaries, druggists and pharmacists, but I fancy no one has ever exceeded Louis Sautter's worth or the respect rendered him by everyone of his time.

Referring to the old-time Peruvian bark, prepared as a powder, like its vile associate, jalap, which in my early days was prescribed in teaspoonful doses, mixed with old-fashioned New Orleans molasses, it was about as severe as any medicine offered in testing the courage of the patient. It was much used in the treatment of ague and fevers: intermittent fever—and I must be permitted to relate an incident in my own career.

At the time the Erie Canal was being enlarged people living throughout the Mohawk Valley were great sufferers from this disease, and every member in my father's family was attacked some time during the season. We did not then understand the mosquito as we do to-day, but in the turning of the ground many little pools of water were left as breeding places for these troublesome prowlers. In due time I had my chills, the faithful old family physician was called, and, after preliminary preparation, six powders of Peruvian bark were left to be administered. My dear mother gave me two, and, as I had always retained her confidence, she left me to take the rest. Being alone in my room for the day, gazing at the powders and molasses, temptation overcame me, and out of the window they went. I had no more chills and my recovery was just what my parents expected from the treatment of their infallible family physician.

Those were the blessed days when entire confidence in their trusted doctor brought its reward.

It was sometime before the disobedience on my part was discovered, then only as the cleaning up process about the house took place was the medicine found and traced as mine. There followed a confession, but, in view of my having made so good a recovery, no punishment resulted, aside from some strong comments on the part of other members of the family, who, although taking more in quantity of the detested bark than I, made no surer escape.

Later, when beginning the study of medicine, my mental trail came to the department of therapeutics, that is the understanding of the uses and doses of medicine, and the peculiarity of patients. A more careful consideration of my own case brought me in contact with the idiosyncrasy of the individual, which has been referred to in such a delightful manner by Oliver Wendell Holmes in his essay on "Currents and Counter-Currents in Medical Science."

Thus I discovered that my own system was peculiarly susceptible to drugs. The small dose of Peruvian bark I had taken was sufficient, being all the aid my system required. In all my years of practice I have never failed to respect the opinion of a patient who stated they could not take certain drugs, nor of any drug except in small doses.

Peruvian bark, as my audience well understands, is quinine in its various forms, and let me here refer to one of our earliest writers in medicine, Peracelsus.

Some years ago, in preparing a paper on " The History of Surgery," for the American Encyclopedia, I was surprised to note that Paracelsus—a prolific writer on medicine in the 16th century—would to-day have been claimed as a pharmacist, for it was he, I quote from a very recent volume, " The Growth of Medicine," by Buck, that "Adolph Gubler, of Paris, credits with the distinction of having been the first physician to give an impetus to the movement which had for its object the application of chemistry to the perfection of medicinal preparations. He also maintained that Paracelsus should be looked upon as, in a large degree, the originator of specific remedies, and that he is justly entitled to the distinction of having been the first publicly to announce the " quintessences "—that is the active principles (vegetable alkaloids)—of drugs. According to this claim it is understood that Paracelsus taught that each drug contained a specially active elementary body, which it was possible to extract as a separate substance."

In November, 1896, it was my pleasure, as a delegate from the United States to the 2d Pan-American Medical Congress, held in Mexico City, to witness much that the then, Diaz government was doing in developing the native medicinal plants of that great country. In a well-constructed building—part of their educational system, of which President Diaz and his wife were justly proud—and of which they knew much—was the State Laboratory, in which every known medicinal plant of that country was classified as to its location, growth, whether the leaf, bark, blossom or root was to be used; and then the result of preparation, in the form of infusion, tincture, solid or fluid extract, crude powder, or otherwise, finally the alkaloids, was exhibited in variously coated pills, or tablets, the most exquisite display I have ever seen.

My observations in developing my mental trail, in visiting many countries, leaves this impression: That the English and Italians excel in gross anatomy, the Germans in bacteriology and pathology, the French in the beauty of their medicinal preparations, but, for general use of all kinds of drugs, there is no country that can equal our own, and, just here is a point of responsibility for the pharmacist of to-day.

In our travels in a foreign country we are made very happy in noting the respect and confidence reposed in our American pharmaceutical products. I have little sympathy with the present graduate in medicine who asserts he wishes he could have entered the ranks of the profession thirty, or more years ago, so much having been accomplished since then in new discoveries. My reply is that there are yet a vast number of unsolved problems and the field is large and waiting to yield wonderful results, if hard work is only continued in laboratory experiments and investigations. I fear it will not be done by a country that has forgotten itself as has Mexico. I often wonder what may be the present condition of that splendid laboratory we admired so much at one time.

The old Spanish trail has not been forgotten. Tampa and St. Augustine to-day are thoroughly alive and glory in the future prospects awaiting the development of the Dixie Highway, the route destined—while full of many landmarks of the old trail—to establish along its lines new points of interest, indicating the great progress in the understanding of this beautiful land of flowers, by the use of the auto, and for which every facility is being offered. But a year or two more and over brick, asphalt, shell and concrete roads you will be able to leave Miami, skirting the Atlantic, and skimming over the Everglades, pass through the enchanting winter resorts, now becoming so approachable for those of high and low degree in the scale of finances. Reaching that wonderful historic spot, New Smyrna, we stop for a moment to consider the splendid result of pluck and energy known as the improved automobile highway, sixty-three miles around the triangle formed by the cities of New Smyrna, Daytona and De Land, being known as the "Million dollar automobile route." From Daytona you pass on to historic St. Augustine and Jacksonville, or, from De Land you follow on to one of the old crossings of the famous St. John's river. No longer do you use the ancient ferry, but pass over well-constructed bridges and strike the Dixie Highway at Eustis and Mt. Dora, as it comes up from Tampa along the West coast.

This is the land of spouting springs, of lakes and streams forming the origin of one of the few rivers running North, and which must have been of great value to the early discoverers.

Florida was discovered by the Cabots, father and son, in 1497. In 1512 Jean Ponce de Leon, of whom we hear in every part of the state something about his great search for the fountain which would restore the aged to immortal youth, rediscovered the land of flowers.

In April, 1512, De Leon landed at what is now known as St. Augustine, and began his fruitless efforts. So great and impressive are the wonderful springs of Florida that from that day to this whosoever visits this peninsula is struck with the traditions that exist, coming from the aborigines, of the healing power of its various waters. And there is surely much to be said in favor of the beneficial effect of the internal use and bathing in the waters of these springs. Near St. Augustine you are shown the identical spring used by De Leon and as you ascend the beautiful St. John's, some 190 miles, you come to a little stream leading to the famous De Leon spring, a few miles from De Land. It is visited by auto travelers in great numbers, and no doubt the delightful bathing afforded is of value. Here the seminoles gathered and treated their sick. The outflow is estimated at thirty-six million gallons in twenty-four hours. There are many other smaller, and much larger springs in this section of Florida, with water so pure that the drinking thereof is a pleasure, and some in which the medicinal taste is such as to require some effort to enjoy.

It is well known that the earnest pharmacist must be well acquainted with medicinal springs, and I feel to say that we bestow a worthy tribute to the memory of Ponce de Leon in referring to his search, of which so much has been written. In so doing we unintentionally aid in marking out our old Spanish trail.

One great important improvement is the recently constructed bridge across the St. Mary's river, where, for centuries, has been located Kohler's Ferry.

On February 7th, 1917, a very large assembly of people interested in Florida good roads, and the development of the South, comprised of many tourists from every part of the Union, gathered to take part in the exercises pertaining to the celebration marking a shorter route into Florida, and bringing the states closer together. For weeks and months there had been carried by the ferry an average of fifty cars daily. The bridge marked the end of troublesome tolls. When all was ended many, many auto clubs and the visitors had been informed of fine roads, instead of sandy, muddy clay, and autoing increased largely.

And now from the ancient city of Pensacola comes the branch good road reuniting the Dixie Highway and enthusing with new life, the states of Georgia, Alabama, Tennessee, Kentucky, and others of the South, on its Westward march. From Washington on to the Pacific coast there links in a new companion, the wondrous Lincoln Highway, and this, together with the great Adirondack scenic highway are observed as our more modern ground trails. And now what about the trail of the pharmacist—its past, present and future?

The past is a factor that affords great encouragement; the present is one full of richness in the assimilation of elegant pharmaceutical preparations, used in the scientific treatment of human ills; the future of immense study and realistic value to you young men. In the exercise of your skill what will be the landmarks on your life's trail? May I, from many years of observation, present some thoughts that come to me as we are gathered here?

The *DeLand Daily News,* under the heading "Advertisers rates," has one clause; "Restrictions: No liquor, Safety Pills, Weak Men, Doubtful Investments, Clairvoyant, or other questionable advertising, will be accepted or run at any price."

What an excellent guide for the apothecary, druggist or pharmacist! How much more is required regarding firmness in the determination to do that which is right than ever comes to the physician!

Solicitations, accompanied by the keenest, and most earnest of arguments, will be offered you to do that which lies in your power, yet which you know to be wrong and wholly evil. Honesty of purpose, strict integrity in performance of one's duty, will, when the shadows of ending life present, bring the comfort and joy that settles in upon us in no other way.

Let your preparation be thorough and no relaxation when on duty. There is always something to investigate more completely.

Truth, that priceless virtue, brings its rewards in the knowledge of having dealt in drugs pure and unadulterated, and as called for by the anxious, watchful physician. The laws of to-day keep a fairly correct tab on drugs that are known to become inert with age, and the stamping of original packages is not to be lost sight of.

On this subject I must emphasize the fear one experiences in noting the frequent changes in ownership of certain drug stores. One can call to mind instances where such has happened and it was promptly shown that the medicines were of no value, upon assay, and prescriptions filled were practically inert.

Again, I recall the dreadful anxiety of mind of a dear old doctor of this city, who, when sent for hurriedly, having been told that a teaspoonful of the medicine had been given, when only five drops was intended, discovered, upon entering the house, where all was fear and consternation, that the little girl exhibited no serious symptoms. Proper antidotes and treatment were immediately employed and as the patient soon presented evidence of recovery, all was joy and gladness.

The doctor, feeling desirous of greater surety, regarding the situation, took the bottle of medicine, had it examined by a competent chemist, and received the report that it was absolutely inert.

Non-recovery of patients is a very striking illustration of this kind.

This is a truth, that the honest physician, having treated a patient for such a length of time, when improvement ought to have presented, and the contrary being the case, doubles his efforts in investigating further to see if he has made a mistake in his diagnosis, and finding no error does not overlook as to the remedies being reliable.

It is very impressive, on visiting the laboratories of our manufacturing chemists, to note the care exercised in labeling and dating their products in order that no mistakes occur.

So it may be said that the active physician or surgeon of to-day derives much comfort in knowing that the pharmacist, who is to put up the prescription he has written, knows all about the dose and preparation, and will observe carefully as to any possible error; therefore, care on the part of the pharmacist is his greatest asset. I am convinced that the honest, true-hearted pharmacist has ever in mind the aid he can render the members of the medical profession. He must be well posted regarding the officinal and unofficinal preparations, as they may be employed in the care of the sick, and in the splendid publications of to-day he has much to aid him.

In the days when abdominal surgery was developing it was considered a wise move for the general practitioner and surgeon to combine their studies, regarding obscure cases, and, by so doing, a more correct opinion was reached. This same course pursued between the members of our profession and the pharmacists, in the use of remedies, will produce like good results. By so doing the pharmacist is more likely to do that which is of mutual benefit—the keeping of an up to date stock of goods, and in sufficient quantity. The pharmacist may accumulate unused material; however, he can minimize this by buying in small quantities, and in exerting his business capacity by making a proper initial charge. The busy doctor is constantly asked by his patients, "where shall I go to have this prescription filled?" Can you criticise him when he has in mind, in his reply, "go to the druggist who considers it his duty to serve the public, and who keeps this thought constantly uppermost." That physician is most fortunate in being cared for by the pharmacist who makes no effort at argument over technicalities but assists in keeping his promises.

If you were to chat with the busy physicians, who are wise enough to get their four or six weeks' rest every summer, and in so doing acquire much knowledge regarding vacation spots, as to what are the strong points to be considered, you would hear them say, "look carefully as to sanitary surroundings, and inspect the drug or drug stores." If the latter represents the best, it is a great factor in influencing you where to go. The neat appearance of a drug store makes a good impression, and the care exercised in sending out everything in an orderly manner, with efficient directness, commands admiration.

In all that this implies the graduate of to-day has many illustrations of vast importance in the work of the past, for, to excel beyond what has already been accomplished, requires great industry, clear methods, and all that the word system implies.

You will come to trials and tribulations where you will find it difficult to establish a satisfactory trail. To-day the commercial agent representing the wholesale drug firm visits the physician and presents his array of specimens in an exceedingly fascinating manner, yet, with all this, the well educated, well prepared, truthful, honest pharmacist retains his well earned position among his fellow men.

Amidst it all this fact stands out very prominently: Never have our laboratories been better equipped for experimental and research work than at present. There is always before us, whatever our occupation may be, this fact, that by doing a little more, and a little better the things demanded, success is sure to follow.

Among the new positions to be developed in the trail of the pharmacist of to-day is the responsibility he must assume, together with that of the physician, in the control of the use of habit-forming drugs, also in the care of that large per cent of people already in need of such treatment, and in aiding physicians who are to control the amount of the drug which the person, who is in actual need, should be allowed to use.

My experience of many years teaches me that we have not always realized how easily some of our prescriptions have led our patients into the continued use of these drugs. Some two or three years ago, when our present laws went into effect, I was astonished to observe that some five of my old prescriptions had been filled from time to time, and that one, containing nitrate of silver, had been used for so long a time as to cause discoloration of the skin, although the patient had been warned against this possibility.

I am convinced that a large proportion of people using narcotics can be cured, while a certain number should be placed under the control of physicians appointed for such service, and these, together with the pharmacist, should be permitted to fill such prescriptions as may be needed for the relief of incurable diseases where great suffering exists: Cases where a wounded nerve presents, not having healed properly, or where there is pressure or entanglement of a nerve trunk by some inoperable condition are of such a class. These patients should be examined from time to time and allowed such doses as will grant relief. Our present laws have done great good but something more is needed. In too many of these cases we are dealing with diseased conditions not fully recognized. It is to be hoped that our present Legislature may be able to solve this problem. They are certainly moving in the right direction.

Another important duty coming before the pharmacist of to-day is that of plant culture. In this there is a large field for success.

I have touched upon the remembrances of my observations in relation to my own mental trail. May I inquire as to the monuments you will erect along Lincoln, Dixie, Adirondack and many other trails as evidence of your having done full justice to your excellent pharmaceutical training?

All along these new highways, or trails, will be developed new territory, requiring the services of skilled pharmacists.

RADIUM EFFICIENCY

Read before the Saratoga Springs Medical Association, April 22, 1917.

By DOUGLAS C. MORIARTA, Ph. G., M. D., F. A. C. S.

The use of radium for cancer has been both lauded and condemned by men high in the profession, men eminently fitted, it would seem, to determine its true value, and we should not accept or deny their conclusions without an analysis of the possibilities. When we consider all that is required of a cure for cancer, it is not strange, that opposite opinions are expressed, as they simply reflect the viewpoint of the observer.

To illustrate, I will present some extracts which give the views of research men, and of clinical workers.

" Radium as a cure for cancer is a failure " says the head of

Crocker fund of Columbia University. (*Cincinnati Enquirer,* December 18, 1916.)

"Report radium fails as cure for cancer. George Crocker, special research fund, spends another year in fruitless quest for method to combat the dread disease. Many experiments carried on by investigators." (*N. Y. Telegram,* December 18, 1916.)

"Radium not cancer cure. Result of exhaustive tests on rats, mice and guinea pigs announced." (*Macon, Ga. Telegraph,* December 18, 1916.)

"Finds radium dangerous in cancer cases. Dr. F. C. Wood reports under some conditions it spreads, rather than reduces, growths. Sanctions use only when operations are impossible, and then only under strict limitations." (*New York American,* December 18, 1916.)

"Radium fails as cancer cure, Columbia director reports. Tumors stimulated by small doses, while growths disappearing after use of larger quantities are only quiescent." (*Pittsburg Gazette Times,* December 18, 1916.)

"Cancer tests failure. Dr. Wood reports he is unable to cure animals with radium." (*Columbus, Ohio, Journal,* December 18, 1916.)

"End of radium theory." (*Philadelphia Bulletin,* December 18, 1916.)

Dr. Joseph B. Bissell of New York, in the issue of *Radium,* November 14, says: "The place which radium is to occupy in surgical therapeutics is quite well-defined. Capable observers, whose scientific knowledge and surgical skill are not questioned, have testified to numberless cures in the malignant type of diseases susceptible to its action. Some of the indications for the use of radium are, in cancer as an adjunct to surgery, before and after operation; on parts of the body inaccessible to the knife; in cases where the tumor cannot be excised without danger to life, or where complete removal is impossible, or is not accomplished; in cases which for cosmetic reasons refuse operation; also in incurable cancer to relieve symptoms such as odor, discharge, and pain."

Dr. Keugle of Omaha, in the *Medical Record,* states: "In no case should radium supplant operation, for the greatest degree of success follows the early and complete removal of all forms of malignant growths. It should be used as an adjunct to surgery, or in operable cases where the patient refuses operation." Dr. Keugle finds it causes the disappearance of rodent ulcer and epitheliomata of the skin, and believes it to be useful in massive doses following operation for cancer. He emphasizes the point that it does not prevent metastases.

Dr. C. Jeff Miller of New Orleans, in the April, 1916, number of *Surgery, Gynecology and Obstetrics,* says: " I have applied radium to malignant areas reappearing in the vaginal vault after hysterectomy in six cases. They were utterly hopeless from a surgical standpoint, and in four, the growth promptly responded to the treatment. This does not prove that radium will cure cancer, as they have not been followed up for a sufficiently extended period. It does prove, however, that cancer of the cervix is profoundly influenced by radium in cases that are hopeless surgically, and the results are far superior to any other remedy I have used. The primary result is often beyond the hopes of the most enthusiastic supporter. Bed-ridden sufferers even, gain a new lease of life, and some have been improved to the extent that surgery might be beneficial when it was originally useless. Its value is being established upon material that is past any surgical relief before radium is used."

In the *Southern Medical Journal,* April, 1916, he further says: " Bleeding and sepsis are the commonest characteristics of advanced uterine cancer, the complications that wear a patient down rapidly and make life a burden. I have used radium in a fairly large series of inoperable cases and failed in only one instance to check the bleeding promptly. I have seen the parametria clear up, the bladder-wall infiltration disappear, the sloughing crater entirely heal over, the pain subside, and all discharge cease, in five hopeless advanced cases of cancer of the cervix. In other cases the results have been negligible, other than controlling the hemorrhage and temporarily retarding the growth."

Drs. Joseph and Louis Ransohof of Cincinnati in an article read before the American Surgical Association, May, 1916, say: " The immediate local results of radium are phenomenal. We have not had a case in which we have not been able to arrest both the offensive discharge and the hemorrhage in from one to three weeks. The cauliflower-like mass which occasionally fills the vagina seems to melt away. The improvement of the general condition of the patient is astounding. Pain is sometimes relieved within a few days of the first application. We have now, after eight months of work, eight cases clinically free from all manifestation of cancer. With one exception, these cases were inoperable, and five had previously submitted to a palliative operation. One borderline case, where an operation might have been done, is clinically cured.

Dr. Louis Ransohof, in the *Lancet Clinic,* March 6, 1915, reports three inoperable cases of sarcoma clinically cured by radium.

Dr. D. Bryson Delavan of New York (*Medical Record,* July 8, 1916), says: " In the treatment of non-malignant intra-laryngeal growths, many highly interesting results have been obtained. Tumors of various histological structure have disappeared, and in a number of cases with complete restoration of the singing voice."

Dr. Edward B. Heckel of Pittsburg, Pa., in an article read before the Ophthalmological Society in Washington, May 9, 1916, says: " The value of radium, if used in sufficient amount in malignant disease of the orbit, has been in my opinion, demonstrated."

Dr. Henry Schmitz of Chicago (*Surgery, Gynaecology and Obstetrics,* August, 1916), states: " The results of radium treatment differ, depending (1) on the organ involved, and (2) on the stage of the disease. The prognosis is best in vescicle, almost equally favorable in uterine and vaginal, and not so favorable, even poor, in rectal carcinomata. The value of the treatment varies, depending upon the operability, inoperability or recurrence of the disease."

Dr. John G. Clark of the University of Pennsylvania, in *Annals of Surgery,* November, 1912, has this to say: "As to radium, I am convinced that it offers the most helpful outlook of any remedy thus far presented in the palliation, and occasionally the curative, treatment of border-line and inoperable cases of cancer. In our series of cases there have been, with two exceptions, no disagreeable effects. Fortunately, we have profited by the mistakes of early workers. There is no way of determining which case will be benefited by its use; and there is no doubt that a certain percentage in which carcinomatous growths are not retarded by radiotherapy, indeed it would appear that there is a positive acceleration of growth. That many cases show an astounding improvement and a local cure, cannot be gainsaid. In our series several instances occurred in which the results achieved were so remarkable as to be almost incredible. As a palliative agent, we have never obtained results with any other method that have even approached in beneficence those secured by radium." He also says: "our attitude toward the cervical and fundal growths of cancer in the uterus is diametrically opposite. In border-line cases of cancer of the cervix we invariably employ radium; while in the advanced cases of cancer of the fundus, we invariably perform a hysterectomy."

Russell H. Boggs, M. D., of Pittsburg, says (*Interstate Medical Journal*, vol. 23, No. 5, 1916): "Radium is a useful and valuable agent in the treatment of leukoplakia, which has been very resistant to other forms of treatment."

Dr. Palmer Findley, of Omaha, in the *American Journal of Surgery*, November, 1916, makes this statement: "Certain it is that radium should be given an extended trial, because enough is known of its therapeutic action to justify its use in all cases in which surgery cannot be invoked."

Dr. Dewell Gann, Little Rock, Ark., in the *Medical Council*, August, 1916, says: "It is only fair to say, that, stripped of all extravagant claims, radium is an asset of permanent value to surgery, and an agent for the relief of human suffering. Therefore, may we not dismiss prejudice from our minds, and think for a moment of the carcinomatous nodule surrounding the blood vessel, that cannot be removed with the knife?" He also states that in the treatment of keloid, radium has given him most saitsfactory results, acting almost as a specific. He thinks rodent ulcer is the most amenable to radium treatment of all forms of malignant disease.

Dr. John M. Lee of Rochester, in *Journal of American Institute of Homeopathy*, December, 1916, has this to say: "In many cases the growths soften, shrink and disappear, without destruction of the normal tissue; and in a short period, sometimes in two weeks, so that the whole process seems incredible, even to the initiated. Until radium was brought into use, tumors of the antrum-highmore and nasal pharynx were incurable. This is also true in sarcoma of the nasal pharynx. They are always fatal without the use of radium; with it, the results are astounding and satisfactory. I have seen some of the most brilliant results in the treatment of inoperable cancer in the cervix uteri; dangerous hemorrhage, excruciating pain, disgustingly foul odors, are often made to disappear almost at once, the tissue becomes soft and yielding, and the cervix assumes its normal appearance. But when the disease extends into the rectum, bladder, and broad ligaments, the treatment is not so satisfactory. Still, the improvement in some of these most pitiable cases is surprising."

Dr. T. C. Kennedy, of Indianapolis, in the *Journal of the Indiana State Medical Association,* March, 1917, says: "We find dangerous hemorrhage in which there is no discoverable pathological lesions, which will yield to a few treatments with radium."

Dr. W. H. B. Aikins of Toronto, in an article reprinted from *American Medicine,* July, 1915, says: "Rodent ulcer is the lesion which of all malignant growths responds best to radium treatment." He also says that vascular growths are more readily affected than the indurated ones. In skin cancer he thinks radium is undoubtedly the most satisfactory agent we have. He further states, "Dr. Abbe of New York was the first to determine the value of radium in exophthalmic goitre. My own clinical observations corroborate this. Radium as a palliative measure, very often relieves pain, controls hemorrhage, lessens offensive discharge and undoubtedly prolongs life."

Frank E. Simpson, of Chicago, in an article in the *Illinois Medical Journal,* May, 1916, takes the position that radium is to be regarded strictly as an adjunct to surgery, and believes that operable cancers should be operated on, though radium may be of great value prior and subsequent to operation. When inoperable cancers are treated with radium, he says "suffering is minimized and life perhaps prolonged." He believes that cancer of the cervix uteri may be wonderfully relieved symptomatically and occasionally become operable. Relapses may occur, but these have yielded to persistent treatment in his hands. He has had most satisfactory results in the treatment of 20 cases of lupus erithematosis. He believes that epithelioma of the skin yields to radium almost universally, though in an occasional case the growth is resistant to radium.

Dr. Howard Kelly, in the *American Journal of Surgery* of March, 1916, says: "Let me recount briefly some of the radium successes. The story cannot be too often told that radium cures basal-celled epithelioma. Surgery will do this, but think of the mutilation when a broad incision is made, or the risk of return if a small one is made to avoid mutilation. It never replaces surgery in operable cases. In breast cancer its usefulness is in recurrences. I have seen some remarkable results in utterly inoperable cases and in treating nodules fixed to the breast. The best group of cases for the use of radium are the lymph-sarcoma. If it did no more than secure the remarkable results we are constantly witnessing in the disappearance of great tumor masses, and saving the lives of those in imminent danger of choking to death, its value would be inestimable."

Dr. Kelly closes with this statement: "It will do many things we have never been able to do before, although it is by no means a specific except in lymph-sarcoma."

Drs. Kelly and Burnham, in the *Journal of the A. M. A.*, November 27, 1915, make these statements: "There are diverse pathological conditions causing uterine hemorrhage, all benign and all troublesome; and we have found all are remarkable for their ready response to radium therapy. Ray-therapy has succeeded in bringing uterine fibroid and hemorrhage under complete control, without risk to the patient, and without injury to the general health. With radium we have been able to diminish the hemorrhage and cause the disappearance of the fibroid, without causing amenorrhea; so it is possible to affect the tumors and uterus without injury to the ovaries. The brilliancy of our results are equal to radical surgical procedures, and have the advantage of eliminating the danger of operations, also pain and suffering of post-operative complications. Further, if radium fails we still have the operative possibility to fall back on, and have lost nothing by waiting."

The foregoing are only brief quotations from a few of the many reports, yet they reflect the opinions of all clinical workers with radium, though they do not give you the enthusiasm of these men.

The research man is looking for a cure for cancer and has been disappointed in radium. The clinician is working in another field, and he has found radium often to be of inestimable value to the cancerous victim. While he considers that surgery gives the only or greatest hope in localized cancer, he has also learned that radium is valuable in conjunction with surgery. He has proven its value in some border-line conditions and in some conditions where the patient could not or should not accept the surgical risk. In these instances, radium is the only hope for the victim, and is a particular boon in its relief of pain, control of hemorrhage and odor.

My own experience and conclusions are in accord with those of the men quoted. I have treated with radium, cancers of the skin, of the cervix uteri, of the vaginal-walls post-operative, of the rectum, of the rectum post-operative, of the vagina, rectum and adjoining tissues, of the breast in conjunction with surgery, post-operative nodes of the breast, cancer of the thyroid, of the aesophagus, rodent ulcer, fibroids of the uterus, persistent meterragia without determinable origin, assumed tubercular glands, lupus fatty tumors, granular cervixes, and some calluses that seemed to involve the joint structure.

All my cases of cancer of the uterus, of the vaginal walls, of the rectum, of rodent ulcers and fibroids of the uterus, were desperate, all inoperable, and far-advanced towards a terminal stage, and by one unfamiliar with what radium occasionally does in these conditions, all thought of affording relief would have been abandoned.

In some of these cases the relief was temporary, though remarkable; in a few it was little short of miraculous, and I plead guilty to not having the courage, because of these facts, to tell you about them in detail. To quote Dr. Lee again, "Even the initiated almost discredit their own observations in what radium does." On the contrary, if one treat all inoperable cases of cancer, regardless of size, character, stage and condition of the growth, there will obviously be many disappointments. Notwithstanding this, we should not be discouraged, but should give to each individual case the only chance for life, at least its prolongation and the relief which may be afforded by using radium.

In closing a paper on this subject, read before the American Gynaecological and Obstetrical Society in September, 1916, I said that "no case of this type is so desperate, and no post-operative condition so hopeless, that radium should not be used with an expectation of the alleviation of the distressing symptoms."

With your indulgence I would like to report briefly four cases which emphasize the force of this statement.

Case 1. Mrs. S., housewife, age 51, was referred to me for a hysterectomy, on account of hemorrhage which had been continuous for over a year. All treatment resorted to, had been without avail. The patient had lost 30 lbs. in weight, was markedly exsanguinated and a general edematous condition was present. Hemoglobin index, 40; red blood count, 3,600,000; albumen and casts in the urine. She was a grave surgical risk, one that the most courageous surgeon would decline. I could not discover any growth. The use of radium was suggested and accepted. After six treatments with radium element, the hemorrhage ceased, to reappear sixteen months later. The radium was again used as before. Ten months have elapsed since the second treatments were given, and there has been no further loss of blood.

Case 2. Mrs. R., Jewess, age 59. Was operated on for uterine hemorrhage at the age of 39. Fourteen years later she commenced to flow again, profusely; this continued irregularly for six years until she came under my care. There was a palpable fibroid at the junction of the cervix with the body of the uterus, four inches in diameter. She was exsanguinated with the concomitant symptoms, cachexia, and shortness of breath, remained in bed most of the time, and had lost 60 lbs. in weight. Hemoglobin 50; red blood count, 3,400,000; an abundance of albumen and casts in the urine; truly an extremely hazardous surgical risk. After four months of intra-uterine application of radium element, the fibroid disappeared, and she has gained in weight and general well-being. Hemorrhage ceased after the third week of treatment. The nephritis is still present.

Case 3. Mrs. C., age 50, came into my service at the hospital in January, 1916. She was an emaciated, worn-out, nervous woman, with a huge malignant breast that had already commenced to break down; the axilla was full of palpable glands. This poor creature had kept her secret and worked daily for a year, when the pain, odor and discharge compelled her to see her physician. Surgery alone could promise nothing. We amputated the sloughing mass, cleaned out the axilla, and then used radium element externally, moving it over the entire area. The pain stopped almost immediately. There were many post-operative nodes over the field of operation, all of which yielded to treatment with radium. In July she came into Dr. Resseguie's service. Metastases occurred in the right breast. Dr. Resseguie operated, and radium was used as after the first operation. There were no post-operative nodes in the region. Mediastinal metastases became apparent in November and she died, eleven months after the first operation. There was never any post-operative necrosis.

Case 4. Miss S., age 51, seen at the Saratoga hospital through the courtesy of Dr. Humphrey. Present condition: an extremely emaciated, septic, bed-ridden patient; not able to walk or stand; complete procedentia. The uterus, four by six inches; the cervix everted so that it had the appearance of a cauliflower mass, five inches in diameter, with a very foul odor, practically making the ward unendurable for others. Radium element was applied four times at intervals of ten days. The entire condition cleared up as if by magic, the odor and discharge disappeared, and the growth melted away. The cervix assumed its original contour, though somewhat enlarged, and the body of the uterus diminished in size and receded to its normal position in the pelvis. She was sent to the County hospital March 1st, clinically cured.

These four cases are all local patients. The two malignant cases were seen by some of the men present. With these, as with all of my radium cases, there is no statistical value, as the time in all instances has been too short, where there has been a local betterment, even to suggest permanent condition. They do illustrate, however, that radium is of value in hopeless cases, in prolonging life, and in making the tenure of life less miserable. Three of the four cases reported are alive and clinically cured. One died eleven months after her first operation, but most of this time she was quite comfortable and able to be with her family. She died rather suddenly of mediastinal metastases, her principal cause of distress being dyspnoea. How different was this from a death with gradually increasing sepsis from a foul, necrotic, cancerous mass.

Case 1 is apparently well, after two years, doing her work, has regained weight, color and cheerfulness. Of case 2, after one year, the same can be said, though her nephritis continues.

Case 4 is of very recent occurrence, and I have not seen her since she has been in the County House. However, disregarding the future, the results in her case were little short of miraculous.

I have not thought that the technique of the application of radium, *i. e.,* the screening, quantity employed and time of application, would be of interest to you, so have not burdened you with it. If it is, however, I would be glad at another time to give you my experience.

Editorial

> Had poor Sir Brian Newcome's seizure occurred at an earlier period of the autumn, his illness no doubt would have kept him for some months confined at Baden; but as he was pretty nearly the last of Dr. Von Finck's bath patients, and that eminent physician longed to be off to the Residenz, he was pronounced in a fit condition for easy traveling in rather a brief period after his attack, and it was determined to transport him to Mannheim, and thence by water to London and Newcome.
>
> *The Newcomes.* THACKERAY.

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Mental and Nervous Cases in the War.

The National Committee for Mental Hygiene has taken early action toward the prevention and treatment of nervous conditions arising at the front. Profiting by the experience of the other allies an effort is to be made in this country to sift out neuropathic and psychopathic individuals at the time of enlistment. For those who do not reveal nervous conditions and who afterward under the stress of the war develop them, it is planned now to provide a nervous and mental service for the base hospital units. Some information on this subject has recently been received from Dr. Thomas W. Salmon (A. M. C. '99), who has been sent to England and France by the National Committee for Mental Hygiene for the purpose of studying conditions there and the probable need of this feature of the service. Dr. Salmon's first communication shows the relative infrequency of true insanity but emphasizes the demand created by the development of neuroses. On this subject he writes as follows:

"In the first place, I am convinced that we are providing far too few beds for actual war conditions. This is entirely true of Base Hospitals generally, but it is especially true of the accommodations for mental and nervous cases. A British Army Division consists of 40,000 men and has a base hospital of one thousand beds, which can be expanded to twice that number. This ratio is considerably larger than that provided by the United States regulations. I have no doubt that thirty beds will be sufficient at the concentration camps in the United States but in France we shall have to count upon providing more beds and possibly a few more medical officers.

"Dr. Mott thinks it very desirable to emphasize the fact that these special wards are to be for *nervous* cases, for there are very few organic nervous casualties even among the wounded. The neuroses greatly outnumber the strictly mental cases. So, perhaps, it would be better for us to speak of our wards as '*nervous and mental wards*' or '*psychiatric wards.*'

"The extent of these casualties is almost beyond belief. I have not yet had access to the official records but apparently the neuroses constitute one of the most formidable problems of modern war. I shall have innumerable instances showing how ineffective ordinary treatment is in these cases and how much can be accomplished from sufficient treatment by psychiatrists and neurologists when they have early access to their patients and some special facilities.

"The little I have already learned has convinced me of the importance of excluding certain easily recognizable psychiatric types at the time of their enlistment. Dr. Mott, who has had enormous experience here, says that he cannot emphasize this too strongly. These people are certain to go to pieces in the presence of danger or hardship and are not only useless themselves but are also a serious drag upon their comrades and the army in general. Mott believes that no testing methods can detect these individuals but that their exclusion must depend upon the expert clinical judgment of the well-trained psychiatrists and neurologists."

Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.
ABSTRACT OF VITAL STATISTICS, MAY, 1917.
COMPILED BY WILLIAM F. FULLGRAFF, REGISTRAR.

Deaths.

Consumption	23
Typhoid fever	1
Scarlet fever	0
Measles	4
Whooping cough	0
Diphtheria and croup	0
Grippe	2
Diarrheal diseases	1
Pneumonia	14
Broncho-pneumonia	3
Bright's disease	10
Apoplexy	9
Cancer	12
Accidents and violence	10
Deaths under one year	23
Deaths over seventy years	42
Total deaths	154
Death rate	20.25
Death rate less non-residents	17.19

Deaths in Institutions.	Non-Res.	Res.
St. Peter's Hospital	3	8
Homeopathic Hospital	4	8
Albany Hospital	11	10
Albany Hospital Camp	1	8
Hospital for Incurables	0	2
Federation of Labor Camp	1	0
Maternity Hospital	0	4
Albany County Hospital	4	4
Penitentiary	0	1
St. Margaret's House	1	0
Childs' Hospital	1	0
Home for the Aged	2	0
Public places	2	4
	30	49

Births	171
Still births	9

BUREAU OF COMMUNICABLE DISEASE.

Cases Reported.

Typhoid fever	6
Scarlet fever	25
Diphtheria and croup	9
Chickenpox	46
Smallpox	3
German measles	106
Measles	193
Whooping-cough	7
Tuberculosis	37
Cerebro-spinal meningitis	1
Septic sore throat	2
Trachoma	2
Mumps	2
Total	439

Number of days quarantine for scarlet fever:
Longest...... 40 Shortest...... 30 Average...... 33 3/9
Number of days quarantine for diphtheria:
Longest...... 28 Shortest...... 8 Average...... 16 4/8
Fumigations:
Houses.................. 52 Rooms.................. 407
Milk bottles disinfected.................. 550

Communicable Disease in Relation to Schools.

	D.	S. F.	M.
Public School No. 3	....	1	6
Public School No. 4	2	....	....
Public School No. 5	....	....	5
Public School No. 6	....	....	3
Public School No. 8	....	1	1
Public School No. 10	....	....	1
Public School No. 11	....	....	2
Public School No. 14	....	....	2
Public School No. 16	....	....	2
Public School No. 17	1	....	6
Public School No. 18	....	....	5
Public School No. 20	....	1	....
Public School No. 25	....	....	4
Blessed Sacrament School	....	....	8
St. John's School	....	1	....
St. Joseph's Academy	....	1	13
Lady Help of Christians	....	....	19

St. Patrick's Institute	1	....	....
Cathedral School	....	2	4
St. Ann's School	....	....	2
Miss Quinn's School	....	....	2

TUBERCULOSIS.

Nurse's Report.

Living cases on record May 1, 1917		742
Cases reported:		
By card	34	
Dead cases by certificate	3	
		37
		779
Dead cases previously reported	20	
Dead cases not previously reported	3	
Removed	2	
		25
Living cases on record June 1, 1917		754
Total tuberculosis death certificates		23
Non-resident deaths:		
Albany Hospital Camp	1	
C. F. L. Pavilion	1	
		2
Resident deaths		21

Visits to Cases of Communicable Disease.

Tuberculosis	46
Diphtheria	1
Visits to physicians	12
Investigations	2

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive	14
Initial negative	445
Release positive	10
Release negative	91
Suspicious	3
Total	563

Test of Sputum for Tuberculosis.

Positive	19
Negative	100
Unsatisfactory	1
Total	120

Widal Tests.

Positive	3
Negative	17
Suspicious	2
Total	22

Wasserman tests	181
Milk analyses	163

BUREAU OF NUISANCES.

Complaints made		79
Inspections		89
Plumbing	45	
Sanitary	44	
Reinspections		113
Plumbing	34	
Sanitary	79	

HEARINGS.

Cases heard before health officer	2

Class of Cases.

Filthy premises	1
Smoke	1

Disposition of Cases.

Abated	2

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

Inspections		161
Old houses	75	
New houses	86	
Permits issued		116
Plumbing	87	
Building	29	
Plans submitted		28
Old buildings	7	
New buildings	21	

Houses tested		23
Peppermint	2	
Water test	21	
Houses examined		26
Re-examined		84
Valid	15	
Without cause	11	

Dead Animal Report.

Horses removed	18
Dogs removed	202
Cats removed	298
Goats removed	1
Total	519

Bureau of Markets and Milk.

Public market inspections	24
Market inspections	21
Fish market inspections	1
Lactometer readings	164
Temperature readings	164
Fat tests	90
Chemical tests	52
Bacterial counts	93
Milk depots inspected	8
Stores inspected	114
Milk cans inspected	240
Dairies inspected	26
Milk houses inspected	26
Cows examined	292
Cows removed	4

Miscellaneous.

Cards posted for communicable disease		193
Cards removed		124
Notices served on schools		439
Notices served on stores and factories		89
Postal card returns sent to doctors		193
Postal card returns received from doctors		156
Inspections and reinspections		212
Work certificates issued to children		22
Vaccinations		156
Cases assigned to health physicians		88
Calls made		167
Garbage collected from first district	bbls.	204
Garbage collected from second district	bbls.	190
Garbage collected from third district	bbls.	146

Hospital and College Notes

Edited by Clarence F. Graham, M. D.

ALBANY MEDICAL COLLEGE.

The following lectures on military subjects have been delivered at the Medical College:

Course in Military Medicine.

April 16—Major Louis H. Gaus, 5 P. M., in amphitheater of Medical School. Subject, "Sanitary Units."

April 23—Colonel William S. Terriberry, M. C. National Guard, 5 P. M., in amphitheater of Medical School. Subject, "The Duties of the Medical Officers in Service."

April 30—Captain Philip C. Hacker, 5 P. M., in amphitheater of Medical School. Subject, "Recruiting Service."

May 7—Dr. Joseph A. Cox, 5 P. M., in amphitheater of Medical School. Subject, "The Plan of Military Instruction of the Clinical Club of Albany, N. Y."

May 14—Dr. J. Lewi Donhauser, 5 P. M., in amphitheater of Medical School. Subject, "Military Surgery."

May 21—Dr. Harold E. Cochrane, 5 P. M., in amphitheater of Medical School. Subject, "The Medical Corps in Field Service."

The following lectures of general interest have been delivered at the Medical College:

Lectures

April 11—Dr. Wheeler P. Davey, of the General Electric Company, Schenectady, spoke at 5 P. M. in the amphitheater of the Medical School. Subject, "The Application of Physics to Medicine."

April 26—Dr. Isaac H. Jones, Instructor in Neuro-Otology, University of Pennsylvania, spoke in the auditorium of the State Education Building at 5 P. M. Subject, "The Value of Routine Examination of the Labyrinth and the Interpretation of Nystagmus," illustrated by moving pictures.

May 3—Dr. Paul D. White, of the Massachusetts General Hospital, Boston, Mass., spoke at 3:30 in the amphitheater of the Medical School. Subject, "Clinical Electrocardiography."

May 3—Dr. White spoke at 8:15 in the Albany Hospital on his "Experiences in the Base Hospitals of France and England."

Medical News

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR MAY, 1917.—Number of new cases, 126. Classified as follows: Dispensary patients receiving home care, 8; district cases reported by health physicians, 2; charity cases reported by other physicians, 30; moderate income patients, 45; metropolitan patients, 41; old cases still under treatment, 48; total number of cases under nursing care during month, 174. Classification of diseases for the new cases: Medical, 34; surgical, 13; gynecological, 2; obstetrical under professional care, mothers 29, infants 27; eye and ear, 2; skin, 3; throat and nose, 1; dental, 0; infectious diseases in the medical list, 15; surgical list, 0. Disposition: Removed to hospitals, 5; deaths, 6; discharged cured, 82; improved, 24; unimproved, 18; number of patients still remaining under care, 39.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 1; students in attendance, 4; nurses in attendance, 3; patients carried over from last month, 1; new patients during month, 8; patients discharged, 8; visits by head obstetrician, 0; by attending obstetrician, 37; by students, 46; by nurses, 63; total number of visits for this department, 146.

Visits of Guild Nurses (all departments).—Number of visits with nursing treatment, 900; for professional supervision of convalescents, 335; total number of visits, 1,235; pay patients, 587; charity patients, 313; unrecorded patients, 335; cases reported to the Guild by 1 health physician, and 45 other physicians; graduate nurses 4, certified nurses 2, pupil nurses 4 on duty.

Dispensary Report.—Number of clinics held, 88; new patients, 154; old patients, 583; total number of patients treated during month, 737. Classification of clinics held: Surgical, 12; nose and throat, 7; eye and ear, 16; skin and genito-urinary, 7; medical, 11; prenatal, 3; lung, 7; dental, 0; nervous, 5; stomach, 4; children, 7; gynecological, 9.

VACCINATION FOR THE PREVENTION OF SMALLPOX.—Smallpox has now made its appearance in Albany, three cases having been reported to the Bureau of Health recently. On account of the large number of persons, especially children, who have never been vaccinated, it is absolutely certain to spread. It is earnestly recommended that physicians throughout the city make every effort to bring about the vaccination of all unvaccinated persons in the families under their professional care.

THE NATIONAL COMMITTEE FOR MENTAL HYGIENE has created a subcommittee on furnishing hospital units for nervous and mental disorders to the United States Government, the project having been approved by Surgeon-General W. C. Gorgas of the U. S. Army.

This subcommittee, of which Dr. Pearce Bailey of New York is chairman, is authorized to secure the services of alienists and neurologists to be commissioned in the Officers' Reserve Corps, Medical Section, and to serve in the neuro-psychiatric units which are to be attached to the base and other hospitals of the military services of the United States. Further information will be given, and application forms sent to physicians qualified in this branch of medicine, on application by letter or in person to The National Committee for Mental Hygiene, 50 Union Square, New York City.

United States Civil Service Examination.—The United States Civil Service Commission announces an open competitive examination for physician, for men only. Present and future vacancies in the positions of physician in the Indian and Panama Canal Services, acting assistant surgeon in the Public Health Service, surgeon and assistant surgeon in the Coast and Geodetic Survey, and in positions requiring similar qualifications in other branches of the service will be filled from this examination, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

Vacancies in the Public Health Service exist at the following places, with the salaries indicated:

Ashtabula, Ohio, $50 per month (3 or 4 hours a day).

Baltimore, Md., $150 per month for whole time; $50 per month for part time.

Cairo, Ill., $100 per month.

Duluth, Minn., $75 per month.

Eastport, Me., $100 per month.

Louisville, Ky., $100 per month.

Lewiston, N. Y., $150 per month (excursion season only, six months a year).

Newbern, N. C., $40 per month (3 or 4 hours a day).

Norfolk, Va., $125 per month.

Pittsburgh, Pa., $150 per month.

Stapleton, N. Y., $5 per diem (when actually employed).

Vineyard Haven, Mass., $4 per diem.

Entrance salaries in the Indian Service, where there are now a number of vacancies, range from $1,000 to $1,200 a year; in the Panama Canal Service, $1,800 a year; in the Public Health Service from $480 to $1,800 a year; Coast and Geodetic Survey, $1,200 a year, and those serving in the Philippines under the Coast and Geodetic Survey receive 20 per cent. additional.

Certification for filling vacancies in the Public Health Service will be made of the highest eligibles residing in the vicinity of the place at which the appointee is to be employed, except that upon the request of the department certification will be made of the highest eligibles on the register for the entire country who have expressed willingness to accept appointment where the vacancy exists.

United States Civil Service Examination.—The United States Civil Service Commission announces an open competitive examination for anatomist, for both men and women, on July 11, 1917, at the places mentioned in the list printed hereon. A vacancy in the Army Medical Museum, Office of the Surgeon General, Washington, D. C., at $1,600 a year, and future vacancies requiring similar qualifications will be filled from this examination, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

As an insufficient number of applications were filed for the examination of May 16, 1917, qualified persons are urged to apply.

Competitors will be examined in the following subjects, which will have the relative weights indicated:

Subjects.	*Weights.*
1. Anatomy (including technic of dissection) and pathogenicity of mosquitoes	25
2. Gross pathology (including preparation of museum specimens)	20
3. Bacteriology (including care and use of microscope)	20
4. Pathologic histology	15
5. Photomicrography	5
6. Training and experience	15
Total	100

As prerequisites for consideration for this position the appointee must have at least a collegiate degree, and have a thorough knowledge of the anatomy (and be experienced in the dissection) of disease-bearing mosquitoes of Southern United States, Panama, and the West Indies, and the Philippine Islands, and the relation of mosquitoes to the transmission of disease. A knowledge of pathology, bacteriology, and pathologic histology is also required, and the appointee must be capable of making photomicrographs, must understand microscopes, and be able to prepare, card, and keep in order museum specimens.

Applicants must have reached their twenty-first birthday on the date of the examination.

Applicants must be examined in the State or Territory in which they reside and have been actually domiciled in such State or Territory for at least one year previous to the examination, and must have the county officer's certificate in the application form executed.

Applicants must submit to the examiner on the day of the examination their photographs, taken within two years, securely pasted in the space provided on the admission cards sent them after their applications are filed. Tintypes or proofs will not be accepted.

Better Sanitation Needed in Rural Schools.—In the interests of efficiency and health there is increasing necessity for the application of scientific medical and sanitary knowledge to the administration of the public schools, in the opinion of the Public Health Service.

In general, the faults observed in rural schools, the annual report of the Service declares, are due to a lack of skilled advice, especially in regard to the location, construction and equipment of school buildings and disregard of sanitary principles governing water supplies, the disposal of sewage, ventilation, temperature, illumination, and the arrangement of school desks and blackboards. During the past fiscal year surveys have been made in rural districts of several States and many thousand school children have been examined. These examinations have included thorough testing of the eyes by competent oculists, tests of mental capacity, and the effect of sanitary environment on school progress, as well as inspections for the customary physical defects.

The conclusion is reached that there is great need for improvement in rural schools and that communities themselves will benefit if conditions are bettered, the schools serving as object lessons for surrounding sections. Conditions in country districts have been found below those in the cities and it is apparent that organized health work has largely been confined to the latter. Considered from a sanitary standpoint alone the Public Health Service is in favor of the consolidation of rural schools, since it must eventually result in the providing of better buildings and the organization of systems of efficient sanitary inspections.

Miners' Consumption.—A recent investigation of the causes and prevalence of miners' consumption among the metal miners in Southwestern Missouri forms the subject of Public Health Bulletin No. 85, issued by the U. S. Public Health Service.

Miners' consumption consists essentially of a mechanical injury to the lungs due to the prolonged inhalation of hard rock dust. It has been recognized as being prevalent in some American mining districts, particularly in the Joplin zinc and lead districts. It was to determine its actual prevalence, and its relationship to pulmonary tuberculosis that the investigation was undertaken.

In the Joplin district certain mines are known as "sheet-ground" mines, in which the ore is found imbedded in an exceedingly hard flint. In drilling and other mining operations this flint rock is finely pulverized. The minute rock dust particles enter the lungs, in the process of natural breathing, and by their irritating action cause the formation of fibrous, or scar like, tissue. The effect of this is to lessen the lungs' ability to expand and contract, with the result that the victim first notices that he is becoming short winded. With continued exposure to this silica containing dust, the difficulty of breathing increases, until the miner is no longer able to perform active physical labor. It was found also that men with dust-injured lungs were especially liable to develop tuberculosis, the dust irritation lessening the ordinary resisting powers of the lungs. While miners' consumption is not in itself infectious or contagious, it predisposes to tuberculosis. The greater the amount of rock dust injury the greater the liability to tuberculosis; the far advanced cases of miners' consumption practically all become tuberculous before their death.

Under an entirely voluntary system 720 miners presented themselves for physical examination, of whom 433 were found to have had their lungs injured by the inhalation of rock dust; of these 103 were also tuberculous, the amount of tuberculosis infection being greatest among the advanced cases of the rock dust disease.

Five years' steady work with exposure to flint dust is fairly certain to find the miner in at least the first stages of miners' consumption. If the miner continues his work after being affected, death usually results within ten years from the time that exposure to flint dust commenced. Poor housing conditions were found to be prevalent and to add to the liability of tuberculous infection. Apparently tuberculosis is now occurring at an earlier stage of miners' consumption than was formerly the case. The report lays emphasis on the necessity of preventing the spread of tuberculosis through these cases, especially among miners' children. The fact that miners' consumption is a forerunner of tuberculosis necessitates that it be treated with the same hygienic precautions as is the latter disease.

The report concludes that aside from the hygienic supervision of underground working places, the education of the miner against the spread of infection and supervision of miners' children, especially those of consumptive parents, are matters of vital importance.

TETANUS IN THE WAR.—In the early period of the European War, many cases of lockjaw or tetanus developed in the wounded of the allied armies. This very fatal disease is caused by a bacillus which is often found in garden soil, street dust, and in the earth in the vicinity of stables. In order to cause tetanus, the germ must lodge in a wound and find suitable conditions for its growth. Injuries in which clothing or foreign matter is forced widely or deeply into the tissues are the most dangerous because the tetanus germ can only flourish in places into which oxygen cannot penetrate, just as toadstools grow best when sheltered from the sun.

As soon as the stress of war conditions permitted, all badly wounded men were immediately given injections of the serum against tetanus as a routine procedure to prevent this dreaded disease. The use of the antitoxin caused a prompt reduction in the number of cases and the control of tetanus in the armies can be justly cited as one of the ways in which science is helping valor to win the war.

This subject is of especial interest at the present season because Fourth of July injuries, especially from blank cartridges, are apt to be followed by lockjaw if they are not promptly and properly treated. The general adoption of the "Sane Fourth" has done much to reduce the number of these accidents and suitable medical attention has prevented the development of tetanus in almost every instance.

In view of the serious results which may occur, it seems wise to again warn all parents that wounds from toy pistols, firecrackers, and firearms are always dangerous and all persons hurt in this way, even though the injury appears trivial, should be taken at once to a competent physician for treatment, especially to ascertain if the serum should be injected.

MEDICAL SERVICE OF THE ARMY.—The following named alumni in addition to those recorded in the ANNALS of June have received commissions:

Dr. Max A. Almy ('12), Dr. James N. Vander Veer ('03), Dr. Clarence E. Mullens ('12), Dr. Howard E. Lomax ('92), captains; Dr. Garrett W. Timmers ('97), Dr. Charles W. Woodall ('13), lieutenants; Dr. Henry K. Tebbutt, Jr. ('16), first lieutenant.

Captains James N. Vander Veer and Clarence A. Mullens and Lieut. Joseph Lanahan have been ordered to Fort Benjamin Harrison, near Indianapolis, for training in the medical officers' camp.

Dr. Henry K. Tebbutt, Jr., has been appointed as first lieutenant in the New York Medical Corps assigned to the First New York Cavalry. Lieutenant Tebbutt was a member of "B" Troop for six years and accompanied it to the border last summer. He has also served as interne in the Albany Hospital.

Dr. Max A. Almy, of Rochester, N. Y., has been named as captain in the Army Reserve.

PERSONAL.—Dr. WILLARD E. WHEELOCK (A. M. C. '14), who has recently finished his service as interne at St. Peter's Hospital, engages in general practice in Rockville Center, L. I. Dr. Wheelock is associated with Dr. Hartley E. Boorom, also an alumnus of the Albany Medical College of the class of 1908.

—Dr. HOWARD F. BONESTEEL (A. M. C. '89), is practicing at Indian Lake, N. Y., in the Adirondacks. Dr. Bonesteel is also proprietor of the "Indian Lake House," a summer resort in the heart of the mountains, established under the best conditions and offering many inducements to those in search of health and recreation.

—Dr. ANDREW MACFARLANE (A. M. C. '87), publishes a paper on "Reduction of Blood Pressure by the Removal of an Adrenal Gland" in the *New York Medical Journal* of June 2, 1917.

—Dr. C. Harry Allen (A. M. C. '99), has opened an office at 61 Columbia St., Albany, N. Y. Dr. Allen will practice chiropractic.

—Dr. Charles G. Briggs (A. M. C. '89), was one of six American physicians of an ambulance unit of the Red Cross to be decorated with the war cross of France. In explaining the reason for this high honor the citation says:

" In a situation most perilous their courage and devotion did not falter for an instant."

The crosses were bestowed at a special ceremony held at the front, General Dauvin affixing the decorations, and, at the end, receiving a surprise in the way of an American college yell.

Married.—Dr. James Manning Dunn (A. M. C. '15), and Miss Alice Marie Ganser, both of Schenectady, were married on June 6, 1917. Dr. Dunn is in practice at 816 State St., Schenectady, N. Y.

Died.—Dr. Adelbert E. Moody (A. M. C. '85), died at St. Regis Falls, N. Y., April 22, 1917.

—Dr. Thomas J. Lally (A. M. C. '99), died at his home in Waterbury, Conn., April 19, 1917, aged 43 years.

—Dr. Everal C. Haviland (A. M. C. '04), died at his home in Keene, N. H., May 27, 1917.

In Memoriam

Adelbert E. Moody, M. D.

Adelbert E. Moody was born in the village of Saranac Lake, June 11, 1857. His early life was spent in the grammar and high school of that village. After graduating from the high school and later while attending the Albany Medical College his services were eagerly sought as a guide on account of his intimate knowledge of the Adirondacks, his skilled marksmanship and his ability as a fisherman. He graduated from the Albany Medical College in 1885. While in College he was associated with Dr. John Swinburne in the Swinburne Dispensary. In 1886 he was united in marriage to Miss Jessie Churchill of Mooers, Clinton County, and resided there for a term of years where he practiced his profession. In 1898 he located at Dickinson Center, Franklin County, where he built up a large practice, and in 1909 he removed to St. Regis Falls. In 1899 he was elected coroner on the Republican ticket, which office he held for twelve years, performing the duties of the office to the satisfaction of all. In 1905 he took a post-graduate course in the New York Homeopathic Medical College and Hospital. Dr. Moody was a successful practitioner and gained considerable prominence as a surgeon. He was a member of the Medical Society of the State of New York, and an ex-president of the Medical Society of the County of Franklin. For the past few years he has been associated with F. W. Aldrich in conducting a drug store in the village of St. Regis Falls. In February, 1917, after the death of Dr. Noble at Bloomingdale, N. Y., Dr. Moody went to Bloomingdale, where he took up the practice of the late Dr. Noble, and arranged to move his family early in the summer. Two cases of typhoid fever developed in the same house where the Doctor was boarding, with the result that the Doctor also contracted the disease. Upon his request he was removed to the Cornwall General Hospital, Cornwall, Ont., where his condition seemed fairly satisfactory until a serious hemorrhage of the bowels occurred. His two sons were hastened in a car at night to the railroad bridge opposite Cornwall where they were met with a hand car and arrived at the hospital to be at his bedside just before expiring, April 22, 1917.

As a man he was held in high esteem by all who knew him. He was kind, accommodating, conscientious and stood for the things he considered right and for the best interests of the people generally. The deceased is survived by his wife and two sons, Ralph and Richard, and three brothers, A. B. Moody, of Tupper Lake, and C. E. and V. D. Moody and a sister, Mrs. W. H. Oldfield, of Saranac Lake, and other more distant relatives to whom the heartfelt sympathy of a host of friends goes out in an abundant measure.

W. A. Wardner.

Everal C. Haviland, M. D.

Dr. Everal C. Haviland, a well-known physician of Keene, N. H., died at his home in that city on May 27, 1917, in his fortieth year.

Dr. Haviland was born in Johnsville, N. Y., October 11, 1877, and was the son of James L. and Phoebe Sherman Haviland. He was educated in the High School at Walcott, N. Y., and graduated from the Albany Medical College in the class of 1904. After graduation he received appointment as first assistant physician at the Brattleboro Retreat in Vermont, and remained there six years. In the autumn of 1910 he entered general practice in Keene. He was city physician for two years, 1914 and 1915, a member of the board of pension examiners; he was a member and secretary of the Cheshire County Medical Society for six years, and also had membership in the Medical Society of the State of New Hampshire and in the American Medical Association. He was an attendant of the First Congregational Church and a member of the Country Club.

Dr. Haviland married Miss Ethel Randall, of Brattleboro, Vt., on October 5, 1909. Mrs. Haviland and a son, aged four years, and a sister, Mrs. Minnie Johnson, of Hudson, Mass., survive.

Military Medicine

MILITARY INSTRUCTION AND THE "ALBANY IDEA."

(*Continued from June* ANNALS, *p. 300.*)

The admirable work done by the Clinical Club in Albany in military preparedness has been demonstrated by an important pamphlet recently issued. As the scheme is of such far-reaching value, it has been thought wise to reprint it in thhe ANNALS so that it may receive a larger circulation than the privately distributed pamphlet, and may also have permanent record.

The following named physicians are the members of the Clinical Club who have accomplished this large task: Dr. ARTHUR J. BEDELL, Dr. FREDERICK C. CONWAY, Dr. ERASTUS CORNING, Dr. JOSEPH A. COX, Dr. MALCOLM DOUGLAS, Dr. EUGENE E. HINMAN, Dr. ELLIS KELLERT,, Dr. JOSEPH A. LANAHAN, Dr. JOSEPH P. O'BRIEN, Dr. DANIEL V. O'LEARY, Dr. JAMES F. ROONEY, Dr. HARRY RULISON, Dr. JAMES N. VANDER VEER.

2. *Selection of Sites for Receiving Stations:* A—Accessibility to main traffic arteries of city.
    B—Adjacent open space to avoid congestion.
    C—Utilize freight sidings with high platforms between tracks whenever possible.
    D—Indicate sites selected, trolley lines, main routes of travel and routes for transfer of wounded on map using conventional signs.
3. *Selection of Shelter Sheds and Buildings for immediate distribution of food, and for Dressing Stations:* A—*Location*—Adjacent to Receiving Station.
    B—Size—Estimated number of wounded to be received at each station.
    C—Availability—Present use. Would all or only part of building be needed? Necessary changes, if any.
    D—Equipment—Water, heat, light, toilet facilities, etc. (See section on "Housings.")
    E—*New Construction.* (If no nearby building is available). Sheds tents, portable buildings.
4. *Litters:* A—*Number Required.* Estimate 10 per cent. of total probable number of wounded.
    B—*Specifications.* Standard army litter. Dimensions. Material. Number of poles. Kind of wood for poles obtainable. Is sufficient material on hand. Price.
    C—*Construction.* Names and address of factories able to make up raw material. Time required for emergency order. Cost.
5. *Litter Bearers:* A—*Number required.*
    B—*Distribution*—Based on 6.
    C—*Personnel.* What group or groups of men would serve?

6. *Approximate number of wounded to be delivered at each station:*
   A—Dependent on trackage capacity of carriers, size of adjacent open space, available buildings, and transportation facilities in city.

Transportation of Wounded within the City of............

Degrees of Disability: Among a large number of wounded received from the front many will be so seriously injured as to require litter transportation to hospital; others, while unable to walk, can travel safely in vehicles which permit of a sitting position only, still others will be able to walk from the detraining point to hospital.

Sources of Ambulance Supply: In preparation for such an emergency there should be listed the number of automobiles and motor vehicles, if the city is a large one, or of motor and horse-drawn vehicles, if the wounded is received in a small place. This list, which should include the taxicab companies, the large business houses which use motor vehicles, moving vans, etc., private automobiles and trolley cars, can well be compiled by inquiry among such companies as well as at the office of the State automobile licensing bureau, garages and automobile club.

Assignment of Ambulances: Ambulances should be ordered to report to the various receiving points, assigning them according to the estimated number of trains expected at the several points. Taxicabs and ordinary automobiles will serve for those who are able to ride in a sitting position. The delivery vehicles, moving vans, local hospital ambulances and police patrol wagons or machines can be used for those needing litter transportation.

Trolley cars may be previously arranged on tracks of the company adjacent to the detraining points, alternating those cars which can be used for sitting-up cases only with those into which litters can be carried and indicating all cars on the outside as to what class of patients they are intended for, thus avoiding confusion incident to bearers having to inquire of officers.

Transportation Routes through City: Inasmuch as the transfer of the wounded will demand the use of a large number of ambulances and clear lines of communication to the various hospitals, certain of the city streets should be closed to civilian traffic for a period long enough to care for the injured. Such streets should be chosen as will give the most direct routes to the hospitals, having in mind also that many will walk, and hence hilly and ill-paved streets should be avoided.

Return of Litters: When litter patients are left at hospitals each ambulance will return same litters or an equal number of litters to the detraining point. This will avoid the necessity for having such a large number of litters at the receiving points.

Cleaning Ambulances: A sufficient force of men should be kept at each detraining point to inspect each ambulance upon its return from a trip to hospital, and where it has been soiled by a previous patient it should be cleansed before again used.

HOSPITALS.

The information required below can be obtained from superintendents of hospitals, nurse in charge of operating rooms, hospital reports, etc.:

General description of each, location, surroundings.

Accessibility to railroads, water routes, trolley lines, etc.

Equipment for special work.

Number of beds.

Possible full capacity.

Is X-Ray equipment modern and adequate?

Number of operating rooms.

Full possible number of major operations that could be done in relation to sterilizing capacity of hospital.

Number of rooms that could be utilized for operating rooms. (In estimating this it should be borne in mind that rooms in out-patient department might be utilized.)

Number of nurses that would be required.

Kitchen capacity in relation to full capacity of hospital.

Laundry capacity.

Character of lighting, electricity, gas, is hospital piped for gas, is electricity obtained from own plant or from some other source?

Elevators.

Number of ambulances, types (motor or horse drawn).

Capacity of ambulances (patients sitting or lying).

Refrigeration—Has hospital its own ice plant?

Ward carriages, number in hospital and number required for full possible capacity.

Does hospital possess its general and special operating instruments?

Names and addresses of local physicians, age, hospital attachments, special work followed by each.

GENERAL HOSPITAL SUPPLIES.

The information required below can be obtained from local wholesale coal distributors, heads of factories and stores or departments therein, government reports on distilleries or owners of distilleries, superintendents of hospitals, operating room nurses, hospital reports, etc.

Coal.

A—Average amount consumed per hospital per annum.
B—Total average daily quantity in city stored by dealers, carriers, etc.
C—Sources of supply.
D—Routes of transportation over which it is brought to city.
E—Bottoms, viz., number of cars and boats available for transportation.

Gauze, muslin, rubber-sheeting, adhesive plaster, pins (common, safety).

A—Average amount carried in stock in stores in city.
B—Names and addresses of stores.

C—Names of factories located in city manufacturing same and capacity of factories.

D—Names and addresses of factories whence local supply is drawn.

E—Amount carried by local hospitals.

Alcohol.

A—Names and addresses of local distillers of alcohol.

B—Average output of local distilleries per annum.

C—Sources of local supply. (Names and addresses.)

D—Average amount in city.

Whiskey.

A—Average amount in city.

B—Names and addresses of local distillers and average output of each distillery per annum.

C—Names and addresses of local wholesale liquor dealers and amounts carried by each.

D—Sources of local supply.

Drugs.

A—Names and addresses of local wholesale houses.

B—Average amount of following drugs carried in stock by wholesale drug houses, hospitals, small drug stores, physicians: ether, chloroform, nitrous oxide, ethyl chloride, morphine, strychnine, boric acid, carbolic acid, alum, aspirin, atropine, caffeine, calomel, chloral, cocaine, codeine, copaiba, digitalis and preparations thereof, emetine, laudanum, iodine, iodoform, lysol, magnesium sulp., mercury bichlorid., castor oil, opium, quinine, oxalic acid, zinc sulphate, potassium permanganate, cathartic pills or tablets.

C—Names and addresses of local drug manufacturers, and capacity of factories for producing above-named drugs.

D—Names and addresses of drug manufacturers whence local supply is drawn.

Cotton.

A—Average amount in city, viz., as carried by retail dealers, local dry-goods houses, wholesale drug houses and hospitals. Specify amounts carried by each.

B—Local cotton mills and names and addresses.

C—Names and addresses of sources of local supply for raw and finished product.

Sewing Machines.

A—Number on hand with local dealers.

B—Local factories.

C—Names and addresses of sources of local supply.

Estimate of persons needed to make sheets, pillow cases, pledgets, etc., etc., for each hospital when hospital would be crowded to full possible capacity.

Glassware, dishes, knives, forks, spoons, etc., amounts obtainable in city. Names and addresses of sources of local supply.

- A—Number of incandescent lamps in city.
- B—Local factories for same—names and addresses.
- C—Names and addresses of sources of local supply.
- D—Gas, natural and artificial.
- E—Possible use of acetylene, amount of calcium carbide procurable.
- F—Kerosene lamps.
- G—Amount of kerosene procurable and sources of local supply.
- H—Candles.

Ice.

- A—Amount procurable and sources of local supply.
- B—Natural and artificial ice plants in city and neighboring localities.
- C—Capacity of same.
- D—Amount of ice needed per diem in hospitals when crowded to full possible capacity.

OPERATING ROOM SUPPLIES.

Operating Tables.

- A—Number needed for each hospital when crowded to full possible capacity.
- B—Number procurable and types of tables.

Instruments.

- A—Number of general operating sets in city, including bone instruments, hypodermic syringes, torniquets, etc.
- B—By whom held. (Names and addresses.)
- C—Local instrument makers and full capacity of factories.
- D—Sources of supply of raw materials.

Suture materials, catgut, silkworm gut, silk, kangaroo tendon, horsehair, common thread, silver and copper wire.

- A—Sources of local supply, names and addresses of local wholesale dealers and factories, amounts carried by each.
- B—Average amounts carried by local hospitals.

Antiseptic gauze.

- A—Crude materials needed for making same.
- B—Amounts available.

Rubber Gloves.

- A—Number of pairs in city and by whom held, wholesale dealers, factories, hospitals.
- B—Sources of local supply.

Miscellaneous. (Amount in city—where obtainable.)

A—Towelling. B—Rubber tissues. C—Soap. D—Rubber tubing for drainage. E—Catheters.

EYE AND EAR INJURIES.

Specifications same as for General Hospital Supplies.

See "Medical and Surgical Supplies,' "Housing," "Beds and Bedding," "Nursing," etc., with addition of following suggestions:

Building.

Refrigerating plant especially needed for ice in eye cases, or provision for extra supply.

Water Supply.

Still for distilling as needed in eyes.

Lighting.

Dark rooms for more serious eye cases.

Operating Rooms.

Dark rooms for eye examination-lights, optician's room, sound proof room for testing ears, surrounding grounds considered as to shade and exercise for eyes.

Surgical Equipment.

Accessories, spectacles, glass eyes, artificial ears, paraffin.

Instruments.

Special eye, special ear-brain.

Dressings.

Special eye-pads-bandages: Roller, knitted, plain black, one eye, both eyes.

Gauze packing.
Isinglass plaster.
Separate ward trays: Eye; ear.
Examination equipment eye—
Test cards — distance, near.
Perimeter.
Ophthalmoscopes — plain electric.
Retinoscopes — asbestos chimneys.
Frosted electric globes.
Test lenses.
Transilluminators.

Lights.

Ear specula—head mirrors, applicators; tongue depressors: metal, wood; nose specula; tuning forks, etc.; rotation chairs; syringes, douche bags, pus basins.

NURSING.

Number of and Types of Training.

1. Graduate registered nurses.
2. Certified nurses.

3. Domestic nurses.
4. Masseurs.
5. Women who have taken First Aid Instruction under Red Cross.
6. Graduate nurses who have married. Estimate of number of nurses graduating yearly.
7. Number of midwives.

Beds and Bedding.

Number of dealers in town carrying beds, the number of second-hand dealers, their location and amount of stock carried by each.

Number of double beds, number of single beds, number of cots, number of convertible couches.

Number of mattresses carried in stock, number of double, number of single, number of mattress workers in locality.

Number of dealers carrying ticking, amount of ticking carried on hand.

Amount of straw on hand, amount available.

Number of pillows, sheets, pillow slips.

Amount of muslin carried on hand.

Source of supply of beds and bedding, how soon could a rush order be filled.

Number of mattress workers in Albany.

Blankets.

Number in stock with local dealers, sources from which local supply is drawn, names and addresses.

Local factories, names and addresses.

Maximum output when local factories are run to full possible capacity.

Sources of supply whence raw materials for local factories are drawn.

Food.

Amount Carried on Hand by Local Dealers: (Sources of Supply.)

Meat—Fresh, canned, corned, sausage, smoked.
Fish—Fresh, dried, smoked, canned.
Vegetables—Fresh, canned.
Coffee—Bean, condensed, chicory.
Tea—Leaves, compressed.
Sugar—Loaf, granulated, powdered, brown.
Salt.
Flour.
Tobacco—Leaf, cigars, cigarettes, chewing, smoking.
Pipes—Briar, clay.
Butter—Fresh, cold storage, oleomargarine.
Eggs—Fresh, cold storage.

(*To be continued.*)

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ALBANY MEDICAL ANNALS

Original Communications

THE SIGNIFICANCE OF LABORATORY RESEARCH IN MEDICAL EDUCATION.

Address at the Eighty-Sixth Commencement of the Albany Medical College, New York State Education Building, June 8, 1917.

By THEOBALD SMITH, M. D.,

Director, Department of Animal Pathology, Rockefeller Institute for Medical Research, Princeton, N. J.

On a festive occasion like this when throughout our country thousands of young medical graduates are to be proclaimed fit to assume the heavy responsibilities of guiding the sick back to health and protecting the well from unnecessary disease, the thoughts of older men naturally turn to the vexatious question as to what training is needed to best equip the medical student for the lifework he has undertaken. We of an earlier generation naturally have our own educational deficiencies to use as an important guide in tracing the needs of the coming generation.

The work of the physician will continue to change both with the changes in the material organization of human society and with the progress of knowledge. No one can look far ahead and foresee the trend of discovery or of social progress and all that we can do today is to speak for the immediate future. Medical education is not a fixed definable quantity and it will continue to change with necessity which dominates all forms of education. Our ideals must square with necessity or actuality and only those ideals will survive which prophesy for the years immediately before us the real necessity. The educational outlay and social value of returns from it must eventually balance. Our views on medical education should, therefore, be modest and tentative and free from any rigid bias. There are always very good reasons for the existence of conditions as we find them and our success in improving and advancing them will depend on our knowledge of how they happened to be so. We cannot improve the present until we thoroughly comprehend it.

The problem of maintaining health is best studied by observing diseased conditions. Until these arise we assume that our activities are normal. Many habits and customs of work and recreation, of sleeping and waking hours, which were practised without suspicion in the past, have been found wanting, not by investigation of health but by the study of disease. Dr. Haven Emerson says that in the wards of hospitals the health officer finds his failures. The problems of public health and those of medicine should, therefore, be regarded as one and the same when we consider medical education. The training of intermediate specialists and grades does not affect the general principle, that the departments of hygiene and public health are outgrowths of the study of disease. This being so, all are agreed that a dominating part of medical education should be a direct study of the patients. The rapid progress made in bringing together for this purpose medical school and hospital was the theme of the speaker here just a year ago.

When we come to the more fundamental underlying education, which really determines the future career of the medical student, opinions are apt to clash. This underlying education involves a training of the senses, of the capacity to observe slight differences and variations, the capacity to perform processes with great accuracy. It involves the power to think clearly and to concentrate upon a subject to the exclusion of extraneous thoughts. Not least is the development of stability of character in harmony with the moral aspirations of humanity. Today I shall only touch upon one of these several needs to be cultivated by the young aspirant for a place at the front of his profession, the power of original creative thinking as developed by research in the laboratory.

The function of the modern physician is to prevent and to cure disease. In so doing he will necessarily carry out procedures taught him by others and his work will, therefore, be more or less routine in character. Owing to the complex nature of the human machinery and the equally complex factors working upon him from without, the prevention and cure of disease no longer lies within the capacities of any single individual. Not only are there now many specialties each limited to the capacity of the individual doctor, but there is developing a hierarchy of adjuncts of different degrees of trained capacity, one dependent on the next higher for guidance. Of this hierarchy the grade of the trained nurse is the most familiar. In Europe and latterly in this country the midwife represents another grade. Each grade should have its educational facilities moulded to meet its future duties. The efficiency of the medical machinery to meet the needs of society in an economical way will depend on a proper subordination of the various grades, both those now established and those to come, to the most highly trained group. I assume that the product of the medical schools should be at the head of the hierarchy devoted to health and disease problems.

I have said that the physician's work is largely of a routine character but this statement needs qualification. Each case of disease is different from every other case, because individuals are not alike and the various co-operating causes leading to disease being complex are not absolutely identical. The physician is, therefore, confronted daily with new problems and it depends largely upon him whether his work becomes mere superficial routine or a series of researches in the interest of his patients If he neglects to penetrate farther than to the outpost where his medical education has left him, his usefulness in a continually changing environment will be very limited. If each case as it presents itself may contain a research problem to be worked out not only in the interest of the patient himself but in the interest of all succeeding patients, it is obvious that the conception of research must not remain foreign to the modern physician. He should become saturated with it even though his busy life does not bring him into a laboratory.

Let us for a moment look at the significance of research. The rapid strides made by medical science, amounting to a complete regeneration of all doctrines, tenets and practices within a generation, are primarily due to research. Since my class graduated, in 1883, our knowledge of infectious processes has been built from the foundation up. All that we know of bacterial toxins, food deficiencies and food toxins has been acquired in this period. Immunology and protozoology are now important specialties, not yet born in the early eighties. Chemotherapy, even now a specialty, with some great successes in its train, appeared late in the nineties. The significance of the ductless or endocrine glands and their profound influence on important functions is of recent growth. The hormones, those messengers which start slumbering mechanisms, were not known until early in the twentieth century. Perhaps the most important function performed by laboratory research in the development of these new acquisitions to our knowledge of disease is the repeated demonstration of the essential unity of the body as an organism. The many practicing specialties which arose near the end of the nineteenth century threatened to cut the body up into a large number of quasi-independent sections or territories, each subservient to special modes of treatment. But immunological and physiological researches have demonstrated once again the absolute interpendence of the various organs and tisues of the body and the uniformity of their defensive methods against external foreign, injurious agents. These researches have shown that, although the various organs may have widely divergent functions, these are knit together and dependent on one another's intact condition. In an indirect way research has had a strong influence for good on the practice of medicine and surgery. Under its influence many medical practices of doubtful utility or even harmfulness have quietly and unostentatiously disappeared like rocks on the coast which are imperceptibly submerged by the rising tides. There can be no doubt that scientific research is responsible for medical progress. Without denying that bedside observation has done much to advance our knowledge and that it is indispensable as a co-operating agent with laboratory research to promote analysis of disease processes, yet we may truly say that if all physicians had continuously kept vigils at bedsides during the whole of the nineteenth century, this kind of activity would not, in itself, have brought us any nearer to the great discoveries of that century.

There are those who think that research should come to a close, that even today we have much more information than is being applied to every day life. This latter statement is in part true. Research, however, must go on for many reasons, only two of which I shall mention. In the first place, research builds downward as well as upward. The earliest researches were built on insecure foundations. Research is continually improving and strengthening its own foundations while building upon them. It is obvious that with uncertain foundations the superstructure needs renovation from time to time. Our knowledge is continually being resublimed and repurified. Another reason for the continuity of research is embedded in the nature of life itself. If the living world stood still, we might well rest on our oars. But it is moving on, changing constantly. Our relation to our environment is in continual flux. New conditions are appearing daily that require adjustment. If we consider merely the many so-called industrial diseases that have been created by the epoch through which mankind is now passing, we have but one among a number of old and new problems which are clamoring for attention.

There is thus ample reason for research to continue. Therefore, let us see what some of its characteristics are. Successful research implies an attitude of mind which does not hesitate to look into the accuracy of facts and data handed down to us from former generations. With some minds the research attitude is the natural one. They are probably akin to the great scholars and reformers of history, many of whom were outlawed or perished because of their audacity to question currently accepted and authoritatively sanctioned doctrines. The research of the past has been more or less spontaneous, springing up here and there. During the nineteenth century, the great universities of the old world were the centres of spontaneous inquiry into existing knowledge. Research was designed both to bring forth new truths and to train the younger generation to acquire the proper attitude of mind towards truth. Gradually, the value of research in practical affairs, the pressing need for reliable information under rapidly changing social conditions led to the establishment of institutions for the regular routine prosecution of research and the solution of practical problems. Spontaneous research was more or less tentative, depending on opportunities and resources. The work of research institutions is organized and cumulative. The great cost of many kinds of research and the long time required to bring certain data to a significant interpretation, naturally limits certain kinds of research to well equipped and supported institutions. We may say that the romantic period of spontaneous individual research is merging into a period of co-operative industrialized research. The difference calls to mind the individual artisan or hand worker with his specialized personal, often artistic product and the modern factory.

Among scholars, there are now and then heard expressions of disdain at the utilitarian character of certain kinds of knowledge, and it has been said by some that nothing useful should be taught in our higher institutions because the utilitarian issue might interfere with the cultural value of the training. Men have gone so far as to deny any cultural value to a study of natural science. Among research workers there are heard from time to time similar heresies concerning the value of utilitarian as contrasted with other kinds of research. We are witnessing a change of opinion, however, towards the essential desirability of directing research into serviceable channels. There is no real antagonism between the two views provided we understand the point of view of those who cherish research for its own sake and those who wish research to be useful.

Research, to lead to results of any permanent value, must be based securely on the known data of science. Much so-called useful research has planted itself upon insecure foundations by advancing unnecessarily beyond the limits of accurate knowledge. There is implied the hope that the foundations might prove secure and in the meantime the worker might gain the time otherwise occupied in preparing his foundations. The research worker engaged in apparently non-utilitarian and esoteric subjects does not wish to foist upon the world any conclusions which are not securely based and which of necessity must be re-examined and reconstructed later on. Obviously there is here a golden mean to be sought, for both positions may lead to extremes. Under the stimulus of endowments granted for essentially practical ends, much work is naturally being done for which the foundations are insecure and for which science is not far enough advanced. In the hands of truly honest and scientific workers such researches cannot do any harm and the unlooked-for by-products are frequently worth the cost of the original enquiry many times over, provided the failure to accomplish, for the time being, the original task is frankly acknowledged.

Thus much for the products of research. Its influence on men should not be overlooked. The world today needs above all the steadying influence of men accustomed to think, no matter in what field their activities lie. Bagehot, the English economist, quotes Pascal as saying that most of the evils of life arose from "man's being unable to sit still in a room." What we need is to sit still and think, to produce results, and this is in part the training which research imposes.

Another result of research which is usually overlooked is its tendency to individualize those who pursue it. The effect of the common training of the schools is to give all a certain uniform education since it transmits the same facts to all. It makes our intellectual possessions commonplace. Research redeems the individual and makes him an expert. Anyone who has done a piece of research and carried it to a successful issue knows more about that particular phase of the subject than anyone else. In a country where research is valued and the research worker has a place of honor, where everyone of a large body of men knows something that no other person knows so well or so accurately, an emergency call for information to be pieced together promptly into an effective whole from the individual contributions of many, soon results in success. It signifies co-operation for advancement and progress in contradistinction to co-operation for doing the ordinary routine affairs of life by varied trades and occupations. These are as a rule stationary and non-progressive until someone gives thought and makes discoveries and perfects inventions.

The human current is going to move, research or no research, but the movement may not be in the desired direction. Usually it is downward unless the spirit of mankind takes hold and directs it. The motive power of this spirit is furnished by research. Its product is material energy. Let me point out that practically all so-called reforms, all equalizing and liberalizing movements are based on the desire for greater material prosperity and physical well-being. Wherever we may inquire, the humanizing movement calls for more surplus energy in the form of money. But money merely represents the promise to get more out of the earth than we got before, more out of the sea and the rivers, more out of human labor, greater efficiency everywhere, in order that we may squeeze out of our common life a little surplus. Only scientific research can accomplish this. Medical research is one phase of it, its special aim being the conservation of human energy.

The need of research in medicine is very great, because its beginnings go back to superstition. Medicine was an art first. It has been gradually developing into a science but it has still much superstition clinging to it and it is still as much an art as it is a science. The science of medicine comprises what we definitely know and what we can predict with certainty of diseases. The art of medicine includes all that human experience gathers from the mysterious unknown that science has not touched, and moulds into some usable shape until science shall have analyzed it and eliminated the uncertainties and the guess work that surround all mere experience. It is research which is gradually encroaching upon the art to build up the science.

There is thus every reason for encouraging research in medical science and we may finally ask where research belongs in medical education. There are those who think that the student should thoroughly learn how to use the tools of his trade but should go no farther. Others believe that it is better to displace some of the memory work with thought-stimulating research however simple the problems presented. Facts committed to memory are easily lost unless they sink deeper into the mind than such material usually does.

No matter what the future student may be asked to inform himself in, what data to commit to memory, what methods to apply, what subjects to overlook or neglect as having passed their usefulness, he who wishes to become a leader must be able to estimate the value of evidence, he must have his senses, his power of observation highly trained and keen, and know the fundamental concepts of natural science which interpret to us the phenomena of life, he must be able to formulate a problem and to know how to deal with the solution of it.

To bring the student in touch with research, the best medical schools have shaped their curriculum and their instruction to meet the situation. Wherever possible the lesson is no longer memorized but skilfully masked as a problem to be performed. Around these problems are grouped investigations into the literature of similar and earlier work. Thereby the methods pursued by the great men of the past are opened to analysis and criticism. The work becomes vivified by personal experience. Later the real research worker shows himself and among these some will pursue research for some years, others perhaps for a life time.

The home of medical research is the laboratory. Wherever any subject in our universe is being studied in a scientific manner, a workroom or laboratory arises into which the student brings his finds to be picked apart and put together again. It is here that the data and observations are weighed and measured and subjected to special experiments to determine if they depend on conditions that can be reproduced at will. In the laboratory the student hopes to construct a model by imitating with the use of animals the conditions obtaining in the sickroom and if this can be done he will be able to give at least a tentative explanation and perhaps devise means to counteract the disease process. The laboratories of the medical school should be carefully nurtured and developed and made financially secure. Even very moderate equipment and maintenance, provided it is continuous and under the guidance of a master mind, will amply repay the outlay to society. Laboratories must grow like living things for they cannot be made to order in a short time. Great discoveries have been made in very scant quarters, the history of science tells us on every page. Here as well as elsewhere, necessity becomes the mother of invention. There is no good reason, however, why laboratories should remain poor and undernourished for there is no virtue in poverty as such. The test of poverty in scientific work as in practical life is a good one to pass through, it is good discipline provided it is not applied too long and too continuously. The study of material problems can not be carried out without material equipment. Mere thought without works is of no avail.

Given a number of laboratories devoted to different phases of the problem of life, the next step in advance is a co-operation among these laboratories in constructive research. Isolated work in individual laboratories will continue, but the fruit-bearing period is often delayed until other laboratories take up the work. Co-operation would prevent duplication, delays and failures. We are now witnessing such voluntary co-operation among scientific men at the seat of government to develop and perfect the unusual demands of war. This process should go on everywhere in times of peace since the work of each individual mind is becoming narrower with the growth of science.

In conclusion let me again emphasize the fact that the two great pillars of medical education are the hospital and the research laboratory. The hospital represents the source of our data and the laboratory the place for study. The modern hospital itself cannot get on without its own laboratories. Wherever research is to go on a laboratory is the necessary and logical place for it. It is where we lay aside our personal wishes and hopes and all subjective bias and give ourselves up to finding the truth with every truthtelling device available.

The maintenance of the hospital will always be assured by society itself and by private benefactors. It is the maintenance and growth of the laboratory as being the great propelling and uplifting agency of the profession in its search for truth to which the physician and especially the recent graduate should give his earnest support and constant attention.

ASSOCIATION OF THE ALUMNI OF THE ALBANY MEDICAL COLLEGE—FORTY-FOURTH ANNUAL MEETING.

The forty-fourth annual meeting of the Association of the Alumni of the Albany Medical College was held in the amphitheatre on Friday, June 8, 1917. The usual informal reception was held in the college library, where photographs were exhibited, and greetings exchanged between the hours of 9 and 11 A. M. Between 10 and 11 decennial class reunions were held in the rooms assigned. The meeting was called to order by the President, Dr. Theobald Smith ('83) of Princeton, N. J., at eleven o'clock.

The following named members of the Association, with invited guests, students of the college, and others interested, were present: Alfred B. Huested ('63); Charles F. Scattergood ('68); William H. Murray ('69); D. C. Case ('70); G. L. Ullman, ('71); Daniel H. Cook ('73); Henry E. Mereness ('74); Dorman Baldwin, James F. Barker ('77); William E. Lothridge ('79); Theobald Smith ('83); Robert Babcock ('84); Martin MacHarg ('85); Charles M. Bradley, J. H. Bissell, M. Francis Drury, John A. Heatly, Arthur W. Johnson, Andrew MacFarlane, Webster Miller, Charles H. Moore, Henry F. C. Mueller, Herman V. Mynderse, H. Z. Pratt, J. S. B. Pratt, Charles Van Wert, Thomas H. Willard, Henry Charles Young ('87); J. Montgomery Mosher ('89); Walter H. Conley ('91); Leo F. Adt, Patrick Joseph Barrett, John B. Grover, Robert A. Heenan, William G. Lewi, Howard E. Lomax ('92); Charles H. Herrick, Thomas W. Jenkins ('93); William H. George, Arthur Sautter ('94); Ira Applebee, William L. Fodder, John Giffen, Marshall Latcher, Frederick C. Leonard, Allen Monroe Ottman, Garrett W. Timmers ('97); Charles S. Prest ('98); George E. Beilby, Joseph A. Lanahan ('99); Arthur J. Bedell ('01); James N. Vander Veer ('03); Malcolm Douglas, William George Keens ('04); C. B. Hawn ('06); Floyd J. Atwell, Norman C. Goodwin, Alfred W. Grover, Tiffany Lawyer, James T. Riley, Frederick Seilheimer, William C. Treder, Herbert J. Wright ('07); Harry H. Drake, Eddy S. Haswell, Ellis Kellert ('09); A. E. Wells

('11); J. L. Edwards, Arthur H. Wheeler ('12); E. H. Ormsby ('13); William P. Howard, Harry V. Judge ('14); Irwin V. Decker, L. J. Early, John Edward Heslin ('15); William J. Carroll, Emanuel M. Freund, Theodore West ('16); Stanley E. Alderson, Milton Aronowitz, Howard W. Davis, Daniel F. Hannon, Harold C. Haviland, John H. Robertson, Norman L. Sheehe, Burchard A. H. Winne ('17); Wesley M. Baldwin, James P. Boyd, Arthur W. Elting, Charles M. Gruber, Cyrus S. Merrill, Thomas Ordway, John A. Sampson, (Hon.).

On motion of Dr. Conley, the reading of the minutes of the last annual meeting was dispensed with and the minutes were approved as printed in the ALBANY MEDICAL ANNALS.

Dr. Cook moved that the President appoint a committee of five to nominate officers for the ensuing year. The motion was carried and President Smith appointed as such committee, Dr. Daniel H. Cook ('73), Dr. Daniel C. Case ('70), Dr. William L. Fodder ('97), Dr. William C. Treder ('07) and Dr. Robert A. Heenan ('92). The nominating committee then retired.

The Recording Secretary presented the

REPORT OF THE EXECUTIVE COMMITTEE AND RECORDING SECRETARY.

A meeting of the Executive Committee was held on May 10, 1917, President Theobald Smith in the chair.

The Treasurer submitted the following report:

Balance on hand	$30 85
Cash received from Dinner Committee	12 86
Membership dues	141 00
	$184 71
Disbursements	119 65
Balance on hand	$65 06

On motion of Dr. Haswell, which was carried, the Committee on Alumni Day entertainment of last year, consisting of Drs. James N. Vander Veer and William G. Lewi, was continued, and authorized to prepare the program for the coming reunion.

After full discussion it was decided that the evening dinner of the Alumni Association be omitted, and that the Alumni luncheon be elaborated.

The Committee was empowered to appoint a chairman for the luncheon.

A motion was carried to invite Dean Ordway to appoint a member of the Faculty of the College to deliver an address at the Alumni meeting.

The Corresponding Secretary was authorized to distribute announcements of the program for Alumni Day and to distribute the report of proceedings of the meeting of 1916.

Respectfully submitted,
J. M. Mosher,
Recording Secretary.

On motion of Dr. Jenkins, the report of the Executive Committee was accepted and ordered entered upon the minutes.

The Treasurer, Dr. Robert Babcock, presented his report for the year, as follows:

Treasurer's Report.

Cr.	
Balance on hand June 1, 1916	$30 85
Dues received during year 1916	147 00
Check from banquet committee	12 86
Total	$190 71
Dr.	
Various bills paid for which vouchers are presented	$119 65
Balance on hand June 1, 1917	$71 06
College Building Fund	$122 28

[Signed] Robert Babcock,
Treasurer.

On motion of Dr. Jenkins which was carried, President Smith appointed Dr. Thomas W. Jenkins ('93) and Dr. Ellis Kellert ('09) a committee to audit the Treasurer's report. The committee retired and later reported the Treasurer's report in accord with the vouchers for expenditures and balances shown.

Ex-President Willard was then called to the chair, and President Smith delivered the annual address. President Smith spoke without manuscript in a most informal and entertaining way upon the state of the science of medicine at the present day, and dwelt especially upon the interrelation between laboratory and clinical medicine.

As President Smith concluded, Dr. James N. Vander Veer moved the thanks of the Association to him for his appropriate and instructive address, incorporating in his motion a request that an outline might be furnished for publication in the ALBANY MEDICAL ANNALS as part of the transactions of the Association. Ex-President Willard put the motion, which was unanimously adopted, and President Smith resumed the chair.

President Smith announced that the invitation to the Faculty of the College to appear before the Association by one of its members had been accepted, and Dr. Arthur W. Elting, Professor of Surgery, was introduced, and described in detail the call for medical service in the war. He outlined the organization of the hospital units, and explained the steps already taken for the provision of a base hospital in Albany, under the rules of the Federal government.

On motion of Dr. Mosher, seconded by Dr. Willard, the thanks of the Association were tendered Dr. Elting for his interesting address.

The report of the Historian of the Association, Dr. Bedell, was then presented and ordered entered on the minutes.

REPORT OF THE HISTORIAN, ARTHUR J. BEDELL, M. D.

Mr. President and Gentlemen of the Alumni Association: Your historian feels that the greatest need at the present time is a complete record of the Alumni of our College. The files are incomplete, especially as to those who served in the Civil and Spanish Wars. To have the entire roster of those who are now or will be later engaged in the military affairs of this country is his desire. This end is only possible by the active help of each and every Alumnus. The concentration on military affairs does not mean that those who serve in less spectacular but by no means less effective manner are to neglect writing of their advancements.

To the members of the Class of 1917, we make a special plea to remain in touch with your Alma Mater. As the years pass, you will appreciate the need and comfort of someone to whom you may go and to some place to which you may return for increased medical enlightenment.

NECROLOGY.

During the past year twenty-five of our Alumni have died:

Dr. AURORA W. GIDDINGS ('54), Anoka, Minn., February 3, 1917, aged 86.

Dr. PETER S. WEIDMAN ('55), Jacksonville, Ill., January 2, 1917, aged 91.

Dr. OWEN J. EVANS ('62), Minneapolis, Minn., October 17, 1916, aged 76.

Dr. IVORY LOWE ('62), Canaan, Me., November 26, 1915, aged 80.

Dr. HIRAM BECKER ('64), Slingerlands, N. Y., May 5, 1917, aged 76.

Dr. HENRY LANING ('64), Chevy Chase, Md., January 1, 1917, aged 73.

Dr. DUNCAN S. ALLEN ('65), Seneca, N. Y., December 23, 1916.

Dr. JOSEPH R. BROWN ('69), Seward, N. Y., October 13, 1916, aged 68.

Dr. ROBERT THOMSON ('71), Troy, N. Y., December 24, 1916.

Dr. JAMES K. YOUNG ('74), Johnstown, N. Y., November 26, 1916.

Dr. CLINTON DEW. VAN DYCK ('79), New York City, at Atlantic City, N. J., August 10, 1916.

Dr. J. SEWARD WHITE ('80), South Glens Falls, N. Y., June 19, 1916, aged 59.

Dr. ELEAZER E. RULISON ('81), Amsterdam, N. Y., April 2, 1917.

Dr. JAMES C. COLEMAN ('83), Goshen, N. Y., February 26, 1917, aged 73.

Dr. ADAM J. BLESSING ('86), Albany, N. Y., at Sacandaga, N. Y., August 6, 1916, aged 52.

Dr. JAMES A. CLYNE ('86), Joliet, Ill., November 8, 1916, aged 56.

Dr. WILLIAM H. DELAMATER ('86), Minaville, N. Y., February 7, 1917.

Dr. WELLINGTON G. STEELE ('86), Mongaup Valley, N. Y., September 10, 1916.

Dr. JAMES C. COLEMAN ('63), Goshen, N. Y., February 26, 1917, aged 73.

Dr. CHARLES G. COLE ('97), Binghamton, N. Y., October 27, 1916, aged 51.

Dr. WILLIAM R. NICHOLS ('98), Rensselaer, N. Y., May 19, 1916.

Dr. THOMAS J. LALLY ('99), Waterbury, Conn., April 19, 1917.

Dr. WILLIAM D. ALDRICH ('10), Albany, N. Y., September 28, 1916, aged 33.

Dr. NORMAN H. LIBERTY ('12), Mineville, N. Y., November 13, 1916, at Ticonderoga, N. Y.

Dr. GLENN D. FROST ('16), Van Hornersville, N. Y., in the spring of 1917.

Respectfully submitted,
ARTHUR J. BEDELL,
Historian.

CLASS OF 1857.

Since the report of 1907, the following named members of the class have died:

MATTHEW R. CARSON, Canandaigua, N. Y.; died October 6, 1914, aged 75.

ROBERT E. ENSIGN, died March 29, 1909.

CHARLES N. HEWITT, Red Wing, Minn., died July 7, 1910, aged 74.

Hamblin B. Maben, Kingston, N. Y., died October 15, 1912.
S. J. McDougall, 100 Boylston St., Boston, Mass.
John H. Stevens, Montour, Iowa, died December 2, 1912, aged 76.
Hugh McG. Wilson, died August 15, 1908.

CLASS OF 1867.

Dr. William D. Swain, Copake, N. Y., writes: "Replying to your favor of October 20th, will say, I cannot act as historian in 1917. Four score and ten years, with some infirmity is my excuse, much to my regret."

Dr. George Tilden, Omaha, Nebraska, writes: "In the spring of 1868, I began here what became a pretty large practice. I retired in the summer of 1914. At one time, I was attending physician to St. Joseph's Hospital and later attending surgeon there; was acting assistant surgeon, U. S. Army, in attendance upon officers and their families at Omaha; was under contract, for forty-five years, for attending U. S. prisoners; was examining surgeon of the Bureau of Pensions; and was commissioner of insanity for forty years, and for a number of years prior to my retirement, devoted most of my time to nervous and mental diseases; am a member of the State and County Medical Societies, and was president of the latter, in my early practice, contributed articles to State Medical Societies and medical journals; my professional income was always very satisfactory.

"It would afford me peculiar pleasure to see once more the survivors of my class, but the infirmities of age admonish me to forego that privilege and pleasure; I wish for every one of them a serene old age and much happiness.

"Please remember me kindly to Dr. Vander Veer when you see him. I have a very high opinion of him as a man and as a surgeon, and I like to say this whenever I have a suitable opportunity to do so."

Dr. J. B. Rouse, Leeds, N. Y., writes: "After graduating at the Albany Medical College in 1867, I took a course at the Long Island Hospital College and also a course in auscultation and percussion under Dr. Austin Flint.

"I commenced practice at Freehold, N. Y. Remained there three or four months and removed to Wyckoff, Bergen Co., N. J. After living there for two and a half years, we came to Leeds, N. Y., in 1876 where we have since lived with the exception of two years.

"In 1889, I accepted an offer to attend the employees of the London and Pacific Petroleum Company under a contract for two years in Peru, S. A. After serving my time, we returned to Leeds, N. Y., and expect to remain to the end which cannot be many years longer.

"I was married September 15, 1868, to Julia B. Fowks, have had one child who died at birth. My wife is still living.

"My medical life has not been an eventful one—probably that of the average country physician. I am unable to do much outdoor work, mostly office business. Am 76 past.

"Hoping to meet you on the 8th of June next, I remain."

Since the decennial report of 1907 reports of the deaths of the following named members of the class have been received:

James D. Bragg, Bridgeport, Conn., died July 23, 1915.

Grenville A. Emory, Middletown, N. Y., died December 12, 1912.

Horatio Giebut, Hornell, N. Y., died (February?) April 25, 1915.

William M. Lawlor, San Francisco, Cal., died October 21, 1907.

William H. Nichols, West Sand Lake, N. Y., died October 31, 1910, aged 60.

Charles J. Simons, Chicago, Ill., died June 18, 1914.

John V. E. Winne, Sidney, N. Y., died April 26, 1915.

CLASS OF 1877.

The members of the Class of 1877 were:

Dorman Baldwin, Oneonta, N. Y.

James F. Barker, 54 Clinton Ave., Albany, N. Y.

Frank Blair, Barton, N. Y., died May 23, 1904.

John E. Colburn, 77 East Washington St., Chicago, Ill.

Jesse Crounse, Altamont, N. Y.

John A. Crowley, died August 27, 1879.

Robert J. Cullen, died.

Ezekiel H. Davis, died.

Horace B. DeLaMater, died July 9, 1879.

William E. Dolan, West Troy, N. Y., died June 9, 1884.

William J. Donald, Tunnel City, Wis.

Alois Donhauser, Albany, N. Y., died January 13, 1890, aged 36.

William H. Edsall, Highland Falls, N. Y., died February 9, 1901.

Henry S. Edson, Cortland, N. Y., died September 19, 1908.

Thomas R. Featherstonhaugh, 114 Madison Ave., Washington, D. C.

John E. Hall, Green Island, N. Y., died November 3, 1886.

James T. Hard, Sunbury, Pa., died January 12, 1915.

Luther E. Hawkins, Brushton, N. Y., died October 11, 1894.

James C. Healey, Albany, N. Y., died March 30, 1891.

J. Ashbel Johnson, Chateaugay Lake, N. Y., died August 12, 1911, aged 72.

Arthur G. Kenney, Troy, N. Y., died June 27, 1896, aged 44.

Rushmore Lape, Fairhaven, Vt.

Maurice J. Lewis, 51 East 125th St., New York City.

David H. Lown. Not located.

Mark M. Lown, Rhinebeck, N. Y.

Frederick DeL. Mandeville, Binghamton, N. Y., died November 18, 1898.

Charles McCullough, Gloversville, N. Y., died October 15, 1898, aged 50.

John S. O'Hara, died July 1, 1883.

Gilbert S. Olin, Fairport, N. Y.

Alexander J. Peets, New York City, died December 3, 1914.

Clarence J. Peets, died November 18, 1883.

Sanford C. Roe, died.

Selwyn A. Russell, Poughkeepsie, N. Y., died January 10, 1906.

George A. Sloan, Westford, N. Y.

Horace T. Sprague, Boutte, La., died August 16, 1891.

Edward V. Stryker, died.

Henry A. Waldron, 206 Grand St., Newburgh, N. Y.

James Warwick, Clinton, Mass., died.

Dorman Baldwin: Immediately after graduation started practicing at South Worcester, N. Y., and remained there until June, 1880, when I removed to Jamestown, N. D., when I removed to Oneonta, N. Y., and retired from the practice. The country of Dakota Territory was new when I went there and the towns were small and no cities. I conducted a general practice. I was appointed a surgeon for examination for soldiers' pensions in 1880 and soon was appointed on the board of examining surgeons for pensions which position I held to 1908 when I resigned. I married in 1905 Miss Flora A. Shearer of Oneonta, N. Y. I have no children.

Wm. J. Donald: "I had been engaged in the practice of medicine twelve years, when I came on to Albany for my fourth term at that institution, and shortly after graduation I returned to my home and practice at Mt. Vernon, Wisconsin, and continued to hold forth there until February of 1880, when I moved to Tunnel City, Wisconsin.

"In 1883, in consequence of synovial inflammation of the knee I was obliged to discontinue the practice of medicine, and enter the mercantile field, not being able to ride in any conveyance faster than a horse could walk, and not to exceed a distance of two miles at a time, and at no time to take a step without the aid of crutches.

"While in this condition I was appointed examining surgeon for pensions on the Tomah, Wisconsin, Board, which position I held for more than ten years.

"To keep me from slipping on the icy walks I devised an ice spur which attracted the attention of the other members of the board, and by their advice I applied for a patent through Munn & Company of New York City, and later commenced to manufacture the article, and distribute same to the public, and I am still in a limited way selling Donald's crutch attachments, and with same, certain kinds and makes of crutches.

"I was an exhibitor at the World's Fair in Chicago in 1893, and received the highest award on my device, nothing of the kind being shown that had the availability of my article. In 1906 I sold my store and again engaged in the practice of medicine, confining my efforts to office practice, which I continued up to December of last year.

"For several years I have had a home in this suburb of Riverside, going back to Wisconsin for the summer months and returning here for the winter months, but I am now permanently located here for such time as is to be allowed to me a man of nearly 82 years of age. I am lame and use crutches, my sight is good, my hearing deficient, memory and health better than the average at my time of life, and I think I have great reason to be thankful, knowing that so many of our class, younger than I, have passed to the great beyond.

"I enjoyed the practice of medicine but circumstances beyond my control cut down the number of years engaged.

"I was in the field from the spring of 1864, less the time at Albany, up to the spring of 1883, and from August, 1906, to December, 1915, a total of twenty-nine years, and this with over twenty years in mercantile life covers my life history.

"I should be very glad to meet my classmates, but the distance and its incident fatigues forbid, but to one and all I extend my best wishes, and should any one of them be in this vicinity I should be very glad to have them come and see me at my home 791 Magnolia avenue, Riverside, California.

Trusting that your class reunion may be a happy one,

"I remain your fraternally,

"Wm. J. Donald."

Marcus M. Lown, Rhinebeck, N. Y.: "As evidence of not having forgotten or ignored yours of the 23d of November, 1916, witness the evidence of its having been filed since that date and now before me for brief reply.

"As 1917 was dawning I had been thinking of precisely the thing of which you wrote. Since living here I have never missed an Alumni meeting, though with the exception of Dr. Lewi a few times and one other from Castleton I think once, have met no others from our class and there has never been a reunion to my knowledge,—little wonder that I would expect there would be any, or that we would meet any others.

"That's pessimistic. What prospect is there of several of the old class being present?

"Fraternally yours,

"Marcus M. Lown."

H. A. Waldron, Newburgh, N. Y.: "This morning 'came across' your letter of November 23d, evidently laid aside on account of lack of data necessary to comply with your request. I have since discovered my New York county clerk's certificate dated September 29, 1880 (think office in West 128th street) associated with Dr. Geo. F. Morris.

"Went abroad and lived for a while in Paris. Resumed practice in about '95. Entered, at the suggestion of Dr. Stedman Bull the New York Eye and Ear Infirmary where I remained for about fourteen years on the staff of Professors Noyes, Dennett, Seabrook and Hunter; on the retirement of the latter resigned my position as assistant surgeon and have since continued practice at Newburgh, N. Y. Consulting ophthalmologist at St. Luke's Hospital."

The Class of 1877 of the Albany Medical College received their diplomas on the evening of February 12, 1877; the exercises of graduation took place at Tweddle Hall located on the corner of North Pearl street and State street on the site occupied by the Ten Eyck Hotel at present.

The valedictorian of the class was John A. Crowley and the essayist was Horace T. Sprague. The class graduated thirty-eight men. Two names I have been unable to locate and twenty-five are dead. I have written on several occasions to the surviving members, but to this time. have received only three replies which I enclose.

As to myself I have been in practice in Albany since I graduated. am married and have enjoyed a fair return from my forty years of hard work and am still in actice practice.

James F. Barker,
Historian.

CLASS OF 1887.

Mr. President, Gentlemen of the Alumni and Fellow Classmates: We of the class of '87 A. M. C., who graduated March 16, 1887, when thirty-eight men received their diplomas, are assembled for the third time in commemoration of the day of our graduation. Since that time, thirty years have made their flight and with that flight of years, have come. to those of us who still remain furrowed brows, silvered hair and added care. But with this added care, has also come, as in the past, the firm resolve of each, to do his part and do it well. And,—that in the past, each one has done his part and done it well, I offer proof.

Dr. Eugene M. Austin states that he is still in the Adirondacks, at Tupper Lake and enjoying fairly good health, and has had a very hard winter and busy spring. He will try to be present at the reunion.

As for myself, Dr. James H. Bissell, life has been largely what I have made it. I am still practicing general medicine in Troy, N. Y., and while the glamor of hope for a great future fades, somewhat, as time advances, and I realize more and more that I am no longer young, I am comfortably situated, have much to be thankful for and am content.

Dr. Charles M. Bradley writes that he is doing well at Harvey, Illinois, a thriving suburb of Chicago, and intends to be present on

June 8th to renew old associations and meet classmates many of whom he has not seen in thirty years.

Dr. William W. Broga has not replied to my letters but we know he is still in active practice in Springfield, Mass.

Dr. Harry T. Brooks writes that he is still in the field, but modestly adds that he does not know of anything regarding himself, that would interest the members of our class. We all know very well however that Dr. Brooks is, and has for a long time been, a successful pathologist to several New York city hospitals. He is in New York City.

Dr. Peter G. Cotter writes a lengthy letter, in which he recounts not only his successes, but also that he has had the misfortune to have been stricken with hemiplegia. He says that the past ten years have brought to him some joy, the usual amount of professional success and some severe suffering. He has one son, a bright child of nearly seven years. Dr. Cotter writes a very interesting letter, which however is rather too lengthy for verbatim repetition here, but he wishes me to extend to the surviving members of our class his accumulated love of thirty years and to say to you that at each decennial meeting he has fully resolved to be with you next time sure, but that now, because of his recent troubles it will be impossible for him to travel so far with safety, but that he will be with us in spirit. Dr. Cotter is located in Los Angeles, California.

Dr. Francis M. Drury writes from Gloversville, N. Y. that time has dealt him a few body blows, one in the shape of a severe operation some two years ago. He is still doing business in the thriving little city of Gloversville, where for some years past he has been more or less interested in real estate and in which he has met with a fair degree of success, but he says he loves his profession no less on that account.

Dr. Robert E. Fivey is located in Chicago, Ill., from which place he writes that he is now and has been for a number of years, devoting his time to orthopedics and orthopedic surgery. He is very well, not having been sick a single day in thirty years. He is married, has one son, a mining engineer, in the west. He regrets his inability to be with us upon this occasion, but wishes me to tell you that he will be with you in spirit.

Dr. Wilmer I. Gordon is located at Cleveland, Ohio. He writes: "I find by looking in the glass that my hair is all gray and that the realization is upon me, that time has brought me near the three score mark. He says that he is classed among the nature fakirs and has been since the year 1900. Before that time he practiced medicine with probably about the same results that all the medical practitioners have to their credit, i.e., those patients who were given little or no medicine had a chance to recover and those who were treated heroically were gathered to their fathers." He says that the past sixteen years he has spent in scientific healing, the only way the people can be cured. He denounces the giving of medicine as a diabolical fraud, and every one who pro-cures money in that way as "the real fakir." He extends the hand of comradeship to us all, even if we are still under the spell of John Bigelow and his medical teaching. He says the other professors to whom he listened, have his respect and that he values their teachings and utilizes them daily.

Dr. John A. Heatley is located in Schenectady, N. Y., and writes that after graduation he located at Holyoke, Mass., but not finding things to his liking, he returned to his native city, Schenectady, where he was successful as city and county physician for several terms. He also acted on the board as U. S. pension examiner for fourteen years. Was physician to the Children's Home when first started and for eighteen years was on the staff of the Ellis Hospital. Was married in 1900 to Miss Julia C. Peterson, who died in 1912 without children. In 1908 he took up eye, ear, nose and throat work and for four successive years he put in three or four months each year at the New York Post Graduate School, after which he spent a year and a half abroad, six months in London and a year in Vienna. He is devoting his time entirely to his specialty in Schenectady and will be glad to welcome the boys at any time.

Dr. Garret L. Hogan is located in Los Angeles, Cal., and writes: "While I have made several bluffs at retirement from active practice, I find the call of the clan too strong to resist in a young man—like me—and I still delight in a rough and tumble fight with our hereditary enemy. I am looking forward with much pleasure to the possibility of being present at our class reunion in June and I assure you, if it is possible, I will report."

Dr. Richard J. Hogan, Glens Falls, N. Y., states that he is still actively engaged in practice in Glens Falls, N. Y. and unless prevented by unforeseen hindrances will be with us at this reunion.

Dr. Arthur W. Johnson is in Mechanicville, N. Y., and says modestly, that he has nothing to report to the class of interest. He has been on his present job for twenty-two years, with few holidays or Sundays and as a result he realizes more fully each day the truth of the definition of life which he found on his desk, viz., that life is "one damn thing after another." He is however, to my personal knowledge, doing well and enjoys the respect of his professional brothers. He wishes the members of the Class of '87 much prosperity.

Dr. Andrew MacFarlane, as you all know, is located in Albany, where he says he is still practicing medicine, devoting himself, largely to consultation work in internal medicine. He is attending physcian at St. Peter's and the Child's Hospital and is on the medical staff of the Hospital for Incurables and also of the Albany Orphan Asylum. He holds the position of clinical professor of medicine in our Alma Mater. He was married in Tokio, Japan, in 1909, to Miss Edna F. Ballagh, and has one daughter now nearly four years old. As he grows older, he says he is trying to put into practice the thought that " Life is not for work alone, but for one's self and for one's friends."

Dr. Webster Miller is located in Stockbridge, Mass. He writes a lengthy and interesting letter, from which I quote: " I suppose your inquiry relative to the past, has to do mostly with the measure of professional and material success and I can only say that I am comfortably well to do. My family consists of a wife, one daughter fourteen years of age, and an aged mother of eighty-one. I have always lived and practiced in Stockbridge, but have never been really well, but I have managed to provide for my family and lay by a modest reserve for their future needs. I own my own dwelling here, and have owned and remodeled three other places within the past thirty years. My practice has been a moderate one I should say and while I would like to relate that I am rated as a very clever physician or surgeon, it cannot truthfully he said of me. Nevertheless, since my locating here a number of new physicians have arrived, made a reputation for themselves and vanished.

" I have held the office of secretary of the board of health for the last four years and have two more years to serve. I also serve as school physician. I have had no serious illness." He says, " I have never forgotten my college days, particularly the phase of associations and I always appreciated the fine and cordial spirit manifested toward me by my classmates."

Dr. Charles H. Moore is located in Albany, and as secretary of our class has been of considerable assistance in furnishing me with data in making this report. He writes that after graduation he spent two years in general practice in Albany, but part of that time was spent in post graduate study of the eye and ear in New York City. In June he became associated with Dr. C. S. Merrill, an association that has continued to the present time. His practice is confined to that of the eye and ear. In 1892 he married Miss Emma A. Gaige. Two children blessed this union, but his son, Walter Gaige Moore, born Aug. 9, 1895, lived but little over a year. His daughter, Grace A. Moore, is now a student in th Russell Sage College, Troy, N. Y., and is nineteen years of age.

He says he has been fairly successful as far as this world's goods go and has no fault to find in that respect. He has always been more or less intimately associated with our Alma Mater, having been continually on the teaching staff since 1891. He is assistant attending surgeon in his specialty at the Albany Hospital and attending surgeon at the Child's Hospital. Was associated with the Troy City Hospital for sixteen years, resigning in 1905.

Dr. H. F. C. Müller is located at Rensselaerville, N. Y., and says that he is leading the simple life. He has been health officer of the town for many years, member of the County and State Medical Societies, is medical examiner for several leading insurance companies, has acted in official capacity in educational matters and is a member of several fraternal societies, including the Masons. He has been organist and vestryman of Trinity Episcopal Church in that place for many years. He says that after twenty-eight years of married life, his wife is still his sole affinity. He has one son, Dr. H. F. Müller, a dentist, located in Albany, and a daughter, the wife of Principal Stanley Rice of Ravena High School. Dr. Müller speaks in highest praise of our old professors, who he says, tried not only to make of us, physicians but also men.

Dr. HERMAN V. MYNDERSE still practices in Schenectady and says that "My career has not been a checkered career, but a varied one. I have kept up the practice of medicine continually for thirty years, but have taken an active interest in several other things beside. Have served as a member of the Schenectady Board of Education from 1890 to 1898 and the last year was its president. In 1902 the village of Scotia made me its first president and re-elected me for five successive terms thereafter. I have served as director of the Mohawk bank of Schenectady since 1891, was vice-president for several years and have been president of that institution since June, 1908." Dr. Mynderse says he believes in the old saying that one is as young as he feels, and that at times he feels quite young. He also says: "I am somewhat of an oddity in the profession, being one of the few to use horses." He is anxious to meet all at the reunion.

Dr. CLARENCE M. PAINE, Atlanta, Ga., writes that after his graduation in 1887 immediately began the practice of medicine in Albany, was resident physician at St. Peter's Hospital the following winter. In 1888 was appointed assistant surgeon on the staff of the Albany Homeopathic Hospital.

Leaving Albany in January 1889 went to Atlanta, Ga., where he is still engaged in the active practice of his profession. Became a member of the Atlanta Medical Club in 1889, has served as president and has been secretary for many years. In 1890 Dr. Paine became a member of the American Institute of Homeopathy and in 1915 was elected a senior of that organization. In 1892 appointed to membership of United States Board of Pension Examiners at Atlanta; held till 1893. Reappointed in 1897 serving until January 1, 1915.

In March 1893 was appointed medical examiner for the Atlanta district of the Metropolitan Life Insurance Company and still holds the position. In 1913 he was honored by the company with a medal for twenty years of faithful service.

When the State Board of Homeopathic Medical Examiners was established under the Georgia Medical Law of 1894 Dr. Paine was appointed a member and still holds the position.

He is a member of the Tri State Homeopathic Medical Society which comprises the State of Alabama, Georgia and Tennessee, also of the Southern Homeopathic Medical Association.

June 10th, 1896, Dr. Paine was married to Louise Root Averill at

Atlanta, Georgia; children were born to them as follows: Dorothy Averill Paine, February 9th, 1898; Louise Averill Paine, April 27th, 1903, and Clarence Averill Paine, June 10th, 1907. The doctor says he weighs 167 pounds, that his hair is light but is getting gray. He will respond at roll call at the thirtieth reunion of the class in June, if possible.

Dr. Robert J. Palmer, Gloversville, N. Y., writes that he expects to be present at the reunion of our class. Is active in his profession. A son, Robert M. Palmer, graduated from the Albany Medical College in June, 1916.

Dr. Henry J. Potter, Bennington, Vt., retired from practice a few years ago and is living quietly in his Vermont home. He was one of the two who did not reply to the letters written.

Dr. Henry Z. Pratt is still in New York City where he writes he is doing general work. His brother, Dr. John S. B. Pratt of the Territory of Hawaii, and who is president of the board of health of those islands is now visiting him. Dr. Henry Z Pratt very modestly refrains from saying much about himself. But it is generally known that he is doing well.

Dr. John S. B. Pratt, Honolulu, Hawaii: After graduation took a six months' course at the New York Polyclinic.

In 1888 started practice in West 83rd street, New York; but on account of ill health was obliged to go south in 1889. June, 1889, arrived in Honolulu and in August, 1890, was married to Sarah C. Dickson, November, 1890, returned to New York and sailed for Europe returning to Albany 1891. From November, 1892, to February, 1893, was spent at Los Angeles and then back to Honolulu.

On January 1st, 1894 formed a partnership in a building and planing mill which continued until early in 1899.

December, 1899, became identified with the territorial board of health and has continued in this work ever since. Has been city sanitary officer, executive officer, general health and sanitary officer, acting president and at present holds the position of president of the territorial board of health, now serving his third term.

In January, 1902, his first wife died in childbirth leaving three boys and three girls. March, 1903, he married Sarah A. Ferguson by whom he has had a boy and a girl.

Since 1893 has made several trips to San Francisco and in 1910 was sent to visit various state boards of health, also Panama and Mexico to investigate yellow fever and the relation of shipping with this territory.

Has done no general practice since becoming connected with the board of health and has devoted his entire time to the problem of health and sanitation.

Besides his wife and self the family consists of four sons and four daughters, the oldest son is an agriculturist specializing in sugar, his second son is a civil engineer specializing in sanitary engineering. of the other children one daughter is at Smith College, Northampton, Mass., and another expects to enter there in the fall. He will certainly be present at the reunion in June.

Dr. James E. Sadlier of Poughkeepsie, N. Y., writes: "For many years my practice has been entirely surgical in character and my work has been done largely in my own private hospital and in one of our general hospitals where I have a continuous surgical service. He says that he has never regretted the day when he decided to take up the study of medicine and especially has he never regretted his choice of a college in which to study. He says, "Mine has been an active life, full of work and anxiety, but I have enjoyed it and a person who enjoys his work has the foundation for true happiness."

Dr. Francis W. St. John writes from Weedsport, N. Y., that he is engaged in general practice and gets his share of work. He is health officer of the village and president, this year, of the Cayuga County Medical Society. He is married, and has three children and five grandchildren, all living in Weedsport. He remembers with pleasure his college life in good old Albany Medical College and wishes to be remembered to all his classmates who may be present at this reunion. He supposes that, in the general order of things, he will never report his history for another decade of practice.

Dr. Charles Van Wert is located in New York City and wishes to be remembered to his classmates. He is engaged in general practice, but says that he is not now so actively engaged as formerly, because of the fact that he has a son, also a doctor, who helps him with his work. He speaks fondly of his professors and attributes his success in practice, largely to his early training.

Dr. Thomas H. Willard is located in New York City, from which place he writes: "There is but little to add to my history of previous record. I am still with the Metropolitan Insurance Company of New York City, as its medical director, where I have been continuously since September, 1890. My son is in his second year at Columbia. My wife is in good health and is always good natured and altogether I have been very fortunate and hope that I am correspondingly grateful. For about five months each summer I reside at Larchmont Manor, New York, and my residence in the city is at 44 Riverside Drive, at either of which places any members of the Class of '87 will be made welcome should they find time and opportunity to call."

Dr. Harry C. Young of Hagaman, N. Y., writes that he is married and has one daughter 21 years of age. His work consists of city and village practice. He is examiner for six life insurance companies, physician to the board of health and of the schools, does the surgical work under the compensation act for the two large mills located there.

His health is good and he wishes all the members of his class the greatest measure of health and happiness.

There are ten others to whom I did not write and from whom we may never hear, for they are gathered into the Father's fold:

Dr. CORNELIUS DE BAUN died at Fonda, N. Y., August 18th, 1911.

Dr. ELMER L. FLETCHER died at Eugene, Oregon, November 10th, 1911.

Dr. MARCUS D. FRENCH died at Lebanon, N. Y., January 9th, 1907.

Dr. EUGENE M. JONES died at Petersburg, N. Y., in 1903.

Dr. OWEN McAVENUE died at Washington, D. C., January 8th, 1914.

Dr. WILLIS G. MACDONALD died in Albany, N. Y., December 30th, 1910.

Dr. GEORGE H. McMURRAY died July 12th, 1901.

Dr. GEORGE F. PALMER died at Pike, N. Y., December 21st, 1895.

Dr. JOHN S. PHILLIPS died at Gloversville, N. Y., August 6th, 1896, and

Dr. GEORGE K. SMITH died at Richmondville, N. Y., date not given.

JAMES H. BISSELL,
Historian, '87.

CLASS OF 1897.

IRA APPLEBEE, 333 S. Pearl street, Albany: I am doing business at the same old stand and in the same way as ten years ago.

I am happy and contented and will be present at our next reunion.

THOMAS J. ARUNDEL: Practicing at 114 East Raven avenue, Youngstown, Ohio, but answered no inquiries.

EUGENE WILLIAM BALTES: Reported dead but year of death not known.

HARRY EDWARD BATTIN, 116 E. First street, Corning, N. Y.: Nothing to add to previous history except that I am ten years older and working as before. Hope to meet the boys of 1917 at the reunion.

JOHN JACOB BEARD, Cobleskill, N. Y.: My history since '07 is little. Removed to Cobleskill from Gloversville May 1, 1908, am in general practice here. During the Mexican excitement I made application for appointment in the Medical Reserve Corps and received my commission as first lieutenant August 16th, 1916.

EDWARD WATERBURY BECKER, 6 St. Paul place, Troy, N. Y.: Will hope to be in Albany for the reunion. Will then give anything that is necessary.

CHARLES HEALD BENNETT, Sodus, N. Y. Answered no inquiries.

EDWARD NICHOLSON BIBBY, Graftsburg, Vt.: Your letter finds me just as I started twenty years ago. I am alone in the world as I lost my all last January when my wife and infant baby died. Am still in active practice and cannot complain in regard to the amount of work I have to do. I am also fairly well fixed in this world's goods. I may be at the class reunion and would like to see all the boys. If any wander this way will try to make it pleasant for them.

HERBERT OSCAR BRUST, 720 S. Crounse avenue, Syrecuse, N. Y.: At the present time I am connected with the surgical staff of the Crounse-

Irving Hospital in Syracuse. I am and have been very well as are also my wife and two children.

Charles Gray Cole: Dr. Cole followed general practice in Binghamton, N. Y. until his death October 27, 1916, following a very severe attack of pneumonia. He left a wife and two children.

Joseph Gilbert Coleman, Hamburg, N. J.: The only thing I can add to ten years ago is that we are all older (old '97) and I am a member of the Medical Officers Reserve Corps, U. S. Army.

Sanders Peter Cornell: Dr. Cornell practiced in Sydney Center, N. Y., until his death in 1914. He left a wife and two children.

William Clapp Cuthbert, Hudson Falls, N. Y.: It scarcely seems twenty years since I graduated at the Albany Medical College. I have been located here ever since I graduated. My family consists of a wife and little daughter ten years old.

Robert Calhoun Davis, Granville, N. Y.: I am still doing general practice at Granville, N. Y. Outside of a little politics things are about as they were ten years ago. I am still holding down the health officer's job for the town and am one of the coroners of the county. Have served the village two years as president. Hope to see all the boys at the reunion.

John Wayman Dean, 6 Pine street, Glens Falls, N. Y.: Began general practice in the summer of '97 at Hudson Falls and Hartford, N. Y. Was appointed examiner for six life insurance companies and visiting physician to the Glens Falls Hospital, served as health commissioner of Kingsbury. In January, 1906, I accepted an interneship at the New Amsterdam Eye and Ear Hospital, New York City. Completing this went to Vienna, Austria, received diplomas in diagnosis and therapeutics of eye diseases, ophthalmoscopy, histology and pathology of the eye, operative surgery of the eye at the Klinik of Fuchs & Schnoble, member of the Glens Falls Medical Society, Society of the State of New York and A. M. A. October 19, 1912, married Miss Grace M. Wood. We have one daughter.

Robert Lincoln Ellithorpe, 140 Bleeker street, Gloversville, N. Y.: The summer following graduation I located in Johnstown, N. Y., where I remained six years, five years of which I was health officer. In 1903 I located in Gloversville where I have since remained, doing general work. Have enjoyed excellent health with a corresponding healthy practice. Fate has indeed dealt very kindly with me. Am connected with the department of health and the staff of the Littauer Hospital. Was married in 1898 to Clara B. Sponnoble of Johnstown. We have no children.

Calvin Emerick: Dr. Emerick died January 26, 1916 from lobar pneumonia after an illness of five days. He was forty-five years old. He leaves a widow but no children.

John Henry Fallon, 932 Albany street, Schenectady, N. Y.: I practiced general medicine in Lansingburg, N. Y. for two years and moved to Schenectady in the spring of 1900. I have followed the general course of medicine since that time, and am enjoying a fair amount of the city's patronage. I have as a family a wife and one daughter who is sixteen.

William Lewis Fodder, 5 Jay street, Schenectady, N. Y.: As you see I am still in Schenectady. Since our last reunion my efforts and studies have been in general surgery and in 1914 was admitted as a Fellow of the American College of Surgeons. I am looking forward to the reunion and hope to have the pleasure of renewing old friendships.

Edward Leo Gaus. Died since last reunion but year is not known.

. John Giffen, 15 S. Hawk street, Albany, N. Y.: Having enjoyed good health during the second decade since our graduation from the Albany Medical College I have endeavored as far as possible to do my duty and to be of some use in the world.

Walter Scott Graham, 128 W. 11th street, New York. Your note received saying that another ten years has gone by. Time flies, but where, no one knows. I am still in old Greenwick Village and doing well. Pay my honest debts so that no man can say I owe him money. I specialize more in skin and genito-urinary work but do general practice as well. No family of children to give me trouble. Have had good health except at present I do not feel as well as I might. Stiff joints with old age coming on.

Frederick Howell Green, 87 Market street, Poughkeepsie, N. Y.: I am pegging away every day but have not yet set the world on fire, have been able to earn enough to buy three meals a day for my family which is composed of my wife and myself.

Lewis Theophilus Griffith: I expected to be in Albany in June for the commencement but this war coming on has upset my plans for I am a captain in the Medical Reserve Corps and am expecting orders at any time, but you can be assured if it is a possible thing to get to Albany in June I will be there. During the past ten years I have been devoting most of my time to anaesthetics. I have several hospital appointments besides a great deal of private work. I am also one of the pension examiners for New York City. These things with my interest in military affairs have made my life a pretty active one. I am still an old bachelor. When I think of the old days I often think of Joe O'Neil, I think I was the last of his class to see him alive which was in San Francisco just before he sailed for the Philippines. Remember me to all the boys and say I shall be with them in spirit if not in flesh, which is still increasing.

William Church Griswold, 78 Prospect Park, Brooklyn, N. Y.: 1907-1909 surgeon Ft. Dupont, Delaware; March 1, '09-July 1, '09 post graduate work at New York Post Graduate Hospital. July 9th to October 1st. 1910, on duty as surgeon with 11th U. S. Cavalry at Ft. Oglethorp, Ga.

Resigned from army in November, 1910. Since that time in private practice at Brooklyn, N. Y., as eye, nose and throat specialist. Have been very successful. Instructor at New York Post Graduate School and Hospital in nose and throat since November, 1910.

Frederick Newman Guyer, 179 Clinton avenue, Albany, N. Y.: I am still in practice at the same address and doing as well as an ordinary physician can expect. Three years ago last January I was appointed deputy health officer which position I still hold. Eight years ago I was presented with a baby daughter who died October 28, 1916, after a three days' illness of infantile paralysis. Her death was a great loss.

Eugene Joseph Hanratta, Watervliet, N. Y.: I am still practicing medicine at Watervliet and hope to be at the reunion.

Reuben Leo Howland, 11 E. 8th avenue, Gloversville, N. Y.: My medical career since graduation is briefly this: During the first year I was associated as partner with Dr. M. F. Drury at Broadalbin, N. Y. During the spring of 1898 Dr. Drury moved to Gloversville and I continued at Broadalbin until 1910 serving two years as health officer of that town. During 1910 I built a house at 11 8th avenue, Gloversville, and began practice there. I am completing a new home on N. Main street, Gloversville, and expect soon to move there. Am married but have no children.

Reuben Hayes Irish, 1811 Fifth avenue, Troy, N. Y.: I have been trying in vain to think of something wonderful in my experiences of the past ten years. When I started in practice I had many ideals of life and professional ethics. All have been shattered. I am still engaged in the general practice of medicine at Troy though I have changed from the north to the central part of the city. I have made a living and saved a little for the rainy day. You will remember that I married Miss Margaret Snape who was head nurse at the Albany Hospital when I was intern there, we have two daughters, Margaret aged 12 and Barbara aged 7. Both attend the Emma Willard School. I drive a Ford. Driving a Ford enables me to send the children to the school of which Troy has reason to be proud. A Pierce-Arrow could not do that. I hold a few official positions most of which are non-remunerative. Examiner of several life insurance companies, attending physician to the Leonard Hospital, examiner for the New York State Hospital at Raybrook, member of board of managers of Lake View Sanitorium, secretary of the Troy Tuberculosis Relief Committee, member of County, State and A. M. A.

Herman Wilcomir Katz. No reply.

Peter Herman Keeler, 1212 Herkimer street, Brooklyn, N. Y.: In the fall of 1898 I located in the Borough of Brooklyn and have since that time followed along the lines of general practice and at this time find myself at the same work. For ten years I was assistant surgeon and at present obstetrician in chief to the Lutheran Hospital. I have always been pleased with my chosen work and have always been able to enjoy the nearing humorous as well as the preplexing problems that have confronted me. My wife with one son and daughter are my comfort and inspiration.

Buel Latcher, 138 Elliott avenue, Yonkers: After graduation served as intern both in the Ellis Hospital Schenectady and in the Albany City Hospital. During the summer of 1899 I located at High Falls, N. Y., remaining there for six years at which time I removed to Yonkers where I still am. Am doing general practice. Assistant attending physician to St. John's Riverside Hospital. Married, no children.

Marshall Latcher, 3 Church street, Oneonta: Began intern service in the Old Albany Hospital, Jan. 1, 1898. After a year there I prospected many claims, locating finally on the suggestion of Dr. W. G. MacDonald, at Oneonta, and the citizens still stand for me. My work is principally surgical. Member of local and State Society and A. M. A. Married Miss Elizabeth Slingerland October 14, 1905, have a son and daughter.

Fred Leonard, Carbondale, Pa.: After graduation I practiced in my home town, Worcester, N. Y., for six years. After the death of my parents I spent a year doing post graduate work in Philadelphia then came to Carbondale. Have held different positions here in the hospitals and schools, frequently doing post graduate work at Philadelphia. I am engaged in hospital and private practice and can truthfully say I have always enjoyed my professional work. Am happily married. Present hobby—raising Japanese gold fish.

William George Lewis, Alton, N. Y.: After graduation I settled at Deersfield, N. Y., in 1910 moved to Alton, N. Y., where I still am. Married and have one child.

Harry Judson Lipes, 178 Washington Ave., Albany, N. Y.: I have nothing special to report. Most every one knows what I have been doing since I graduated. At present I have the honor to say nothing of the work of holding the position of Supervising Officer of the Hudson Valley Zone in the Military Training Comm. As you know I am the Surgeon of the Second Regiment N. Y. Infantry, with rank of Major, and spent nearly half of last year at the border. I have one daughter, Miss Caroline Elizabeth, who finished her sophomore year in the State College for Teachers this year.

Fred G. Markle, Pleasantville, N. Y.: Practiced in Bangor, N. Y., until 1908, then moved to Morristown, N. Y., staying there three years. Moved from there on account of the health of our oldest daughter; left a good practice there. Daughter has been well ever since. Am enjoying good health and a large practice. Have two children.

Leonard McClintoch, Beacon, N. Y.: My doings for the past ten years can be summed up in the one word—working. Have been devoting my time to general practice with some hospital work and each day and each year has been a repetition of the preceding one. I can hardly realize that another ten years has passed, but when I look over the requirements necessary to join the Medical Corps and do my bit for my country, I find I am too old and I will soon have to step aside and join the "has beens."

EDWARD FRANCIS McCORMACK. Nothing known concerning him.

WILLIAM C. McCULLOCH: Dr. McCulloch died suddenly of cerebral hemorrhage while making a professional call January 8, 1910. At the time of his death he was president of the department of health of Gloversville, N. Y.; member of staff of the Littauer Hospital, and enjoyed a large and select practice. Unmarried.

FRANCIS JAMES McKOWN, Carmel, N. Y.: Another decade has passed and finds me still practicing general medicine at Carmel, N. Y., where I came immediately after finishing my intern service at the old Albany Hospital. I have enjoyed good health and plenty of hard work and am reasonably prosperous. I hope to continue in the harness for twenty years more.

HARRY ALVIN MERCHANT: Died of septicaemia from an operating wound, January 25, 1901, leaving wife and two children.

GEORGE COE MERRIMAN, Lake Como, Pa.: After graduation I went to Philadelphia, got an appointment to a rural hospital with a fairly large field, stayed there one month, and as conditions were unsatisfactory resigned to take an appointment in Brooklyn. Stayed there until the war with Spain, when I entered the service as hospital steward and was promoted first lieutenant and surgeon, U. S. V., July 15, 1898. Commanded hospital corps company and served with hospital of First Division, Q. A. C., to March 11, 1899, when I was mustered out. Went to Scranton, Pa., and practiced there until September 15, 1906, when because of rapidly failing health I left a well-established practice in obstetrics and diseases of children in order to try and extend the period of six months allotted me by the brethren. Came to Lake Como and got tired of trying to confirm the prognosis of the brethren, so gave it up as a bad job and proceeded to make a complete recovery. The trouble was due to a runaway in 1902, resulting in severe injury to the spine and right kidney. Am doing a general country practice; some patients have two legs, some four—normal allotments, I mean. In 1908 married Mary M. Blair. No children. Served in the organized militia from April, 1900, to March, 1906, filling the offices of inspector of small arms practice and captain of infantry. Have contributed a number of case reports to the journals and a monograph on acute leptomeningitis published in the *Cyclopedia of Practical Medicine.*

JAMES JOSEPH NOONAN, 67 Reservoir St., Cohoes, N. Y.: Am still at Cohoes, N. Y., engaged in general practice. Have a wife and five children and have been fairly successful.

JOSEPH ALLEN O'NEIL: Killed by a band of Ladrones while in the service of the United States Government in the Philippines, January 25, 1906. His family was murdered at the same time.

ALLEN MONROE OTTMAN, Hilton, N. Y.: I am still located in the same place in Hilton, N. Y., and feel that I am receiving my share of the world's blessings—good health, plenty to do, and a few luxuries besides.

PAYN BIGELOW PARSONS, 1915 Kenyon street, Washington, D. C.: I will quote from Who's Who in America which sums up with a few frills but briefly — Sanitary Expert, born Baldwinsville, N. Y., 1872, A. B., Wiliams College, 1892: M. D. Albany Medical, 1897; Cornell Medical, 1904-5; special P. G. Course in Bacteriology: Married Ella Mae Emerson, June 30, 1900; Bacteriologist, N. Y. Subway Investigation, 1905; N. Y. Bay Pollution and Metropolitan Sewerage Commission bacteriologist, 1906-7-9-10-11-12-13; bacteriologist Lederle laboratories, New York, 1908; since Nov. 1913, bactoriologist U. S. Bureau of Chemistry — three years at their N. Y. laboratory and since Nov., 1916 at Washington, D. C., where I am at present. Member at present of Society of American Bacteriologists, American Public Health Association, Washington Bacteriological Society, Delta Kappa Epsilon and P. M. Beta Kappa.

GEORGE BURTON PEARSON, Wilmington, Del. No answer.

CHARLES HARPER RICHARDSON, Pittsfield, Mass. No answer.

GEORGE EUGENE SCHOOLCRAFT, Hartwick, N. Y.: Doing general practice, very successful, not married.

WILLIAM JOHN SHEEHAN, Portchester, N. Y. No answer.

WILLIAM ETHELBERT SILCOCKS, Green Island, N. Y. General practice.

CLARENCE JONOTHAN SLOCUM, Beacon-on-Hudson, N. Y. No answer.

JOHN ARCHIBALD STEVENSON, Chester, Vt.: Twenty years finds me just about the same as ten years ago. I am still in Chester, Vt., in active practice of medicine. Hope to be at the reunion.

GARRETT WARREN TIMMERS, Castleton, N. Y.: It hardly seems twenty years since graduation, but so it is. I feel no older now than then, I have been quite successful "Medically" and have been continually busy since graduation. I am located at Castleton and have been here about sixteen years.

JOHN WILLARD TRAVELL, 27 East Eleventh street, New York City.: I have done in my special sphere what I presume the majority of our fellows have done *i. e.,* I have stuck to the practice of medicine very faithfully, have sought and secured more or less recreation or diversion on the side and have had most of my enjoyment in a home life filled with many varied interests. I find physical therapeutics and particularly electro-therapeutics more and more interesting as an aid to other treatment in all localized disorders with inflammation, induration or pain. Why limit our resources to drugs where drugs plus other powerful agencies can be used.

RICHARD VAN BEUSEKON. Died July, 1901, following an operation for appendicitis.

CHARLES NICHOLAS VAN DENBERG.. Nothing known concerning him.

DELBERT S. WILBUR, Naples, N. Y.: I can hardly realize that twenty years ago we were young and very inexperienced M. D's. Some way I always neglected writing to all who wrote me and so have lost track of the boys. My history is very soon told. February 2, 1898, I came to my home town and have been here since, have had all the hardships of a country practice but on the whole I am very well satisfied. Was married October 12, 1904, no children. December 11, 1915, I developed a trouble of the gall bladder which was relieved by an operation, this leaves me a troublesome side limiting my activities as well as my income. Since my illness I am unable to ride much when the roads are rough.

CLASS OF 1907.

Dr. Charles S. Allen, Boise, Idaho, writes: "Interne Albany Hospital 5/07-7/1/08. Married to Irene Sarah Williams, a nurse from Albany Hospital Training School, August 11, 1908. Admitted to practice, Idaho, October, 1908. Practiced in big mining camp 10/08-9/10. One daughter born to the above 9/10/09, Mildred W. Associated myself with Drs. W. L. Allen and F. W. Compton of Boise, September, 1910, finally forming a co-partnership with Dr. Allen, A. M. C. '81, being with him till August of 1914. Practiced specialty, urology in a new and growing city, viz.: Pocatello, Idaho, till had an attack of pneumonia in June, 1915. Was out of practice for about fifteen months."

Dr. Floyd J. Atwell, Cooperstown, N. Y., writes: "Graduated May 3, 1907. Spent one year in Troy, N. Y., after which I was married to Miss Helen Murdock, and located in Cooperstown, N. Y. Have always followed a general practice. Am attending physician and surgeon, Thanksgiving Hospital, Cooperstown, N. Y., physician and surgeon, Otsego County Hospital, and surgeon Southern New York Railroad. I have two sons, aged eight and six years, Robert Murdock Atwell, and Sherman William Atwell."

Dr. George W. Beebe, St. Johnsville, N. Y., writes: "Located at St. Johnsville, N. Y., for ten years. General practice. One wife, one boy, mortgage on house, Ford car, and one bull dog."

Dr. Joseph L. Bendell, Albany, N. Y.

Dr. Edward G. Benson, Albany, N. Y.

Dr. Howard P. Carpenter, Poughkeepsie, N. Y., writes: "After graduation I worked for a time in the Bender Laboratory at bacteriology, and later came to the Hudson River State Hospital as interne. After six months' service I was placed in charge of the laboratory as pathologist and have remained in that capacity with two intermissions in which I went to the Psychiatric Institute of New York, for special study in neuropathology and serology. My advance in rank has been satisfactory and I believe commensurate with the interest and effort that I put in my work. In addition to my resident position I hold appointments as consulting pathologist to St. Francis Hospital, the Samuel Bowne Memorial Hospital, Highland Hospital at Beacon, and the General Hospital."

Dr. William D. Collins, Hudson, N. Y., writees: "My history since leaving medical school some ten years ago, is a brief one. Spent one year at the Samaritan in Troy and since then have been doing a general practice here in Hudson. Have no complaint to make, for I seem to be getting my share. Am an attending physician at the Hudson City Hospital. Served five years as health officer of Hudson. Am married and have two children, both girls."

Dr. Erastus Corning, Albany, N. Y., writes: "After graduation I spent one year as interne in the Albany Hospital and then entered practice. It has been my privilege to have opportunities for service in several of the hospitals and charitable institutions in this ctiy, and this work has been very agreeable. As trustee of the New York State Hospital for Incipient Tuberculosis at Ray Brook, and of the New York State College for Teachers, at Albany, I have gained some insight into administrative and educational problems. These duties, combined with the activities of a gradually increasing private practice, have kept me busy. My intimate association, personal and professional with Dr. Samuel B. Ward terminated by his death in 1915, I shall always regard most highly. Not only was personal contact with him an inspiration and a pleasure, but his advice and guidance and backing, so freely and loyally given, have been and will remain, of inestimable value. I could seek no greater success than an aproximation of the standards that he so continuously exemplified. I was married before graduation to Edith Harlan Child of Washington, D. C., and have three children, Edith, Gertrude Tibbits and Erastus Corning, Jr. As a member of the Medical Officers Reserve Corps of the Army, I am preparing to be called into active service at any time."

Dr. Marcus D. Cronin, Albany, N. Y., writes: "Following my graduation I spent one year as an interne at St. Peter's Hospital, and the next year at Bender Laboratory, first as bacteriologist, and later as acting director. I then took up the active practice of medicine, paying particular attention to surgery. In January, 1917, I was appointed an attending surgeon at St. Peter's Hospital. I am married and have three children."

Dr. Walter T. Diver, Troy, N. Y., writes: "Since graduation, interne in Troy Hospital for eighteen months; pathologist and bacteriologist for two years. Went abroad for nearly sixteen months. Was appointed attending surgeon in Troy Hospital when I returned in 1913. Have been since. Not married."

Dr. Joseph L. Donhauser, Albany, N. Y., writes: "Resident Pathologist, Pennsylvania Hospital, Philadelphia, 1907-1908. Assistant to Dr. A. W. Elting, 1908-1916. At present, attending surgeon Childs Hospital; assistant attending surgeon, Albany Hospital. Unmarried."

Dr. Edward H. F. Frisch, Atlantic City, N. J., writes: "After leaving Albany went to Philadelphia to continue studies on the eye under Dr. Oliver, then back to Boston to take a position as house-surgeon in the Massachusetts Eye and Ear Infirmary. After this was established as an eye specialist in Buffalo. From Buffalo removed to Atlantic City, have now been practicing for five and one-half years, and hold the position of ophthalmic surgeon to the Atlantic City Hospital."

Dr. Alfred T. Gabbiels. Not located.

Dr. Louis H. Gaus, Albany, N. Y. Major in New York State Guard.

Dr. Norman C. Goodwin, Richmond Hill, N. Y., writes: "Interne Albany Hospital 1907-1908. Lying-In Hospital, New York City, three months. Active general practice since leaving the Lying-In Hospital. Married."

Dr. Alfred W. Grover, Kingston, Pa., writes: "After passing the New York and Pennsylvania State Board examinations I entered the Wilkes-Barre Pa. City Hospital as resident physician where I served one year. I then began practice in my home town of Kingston, Pa., where I have been very successful ever since. I was appointed to the dispensary staff of the Wilkes-Barre City Hospital in 1909 and continued to serve until 1912 when I resigned and accepted a position as associate surgeon on the staff of the Nesbitt West-Side Hospital, Kingston, Pa. In 1914 I received an appointment as surgeon on the latter staff and was elected a director of the same institution. I am doing general work but paying particular attention to surgery. I have had one very fortunate escape from accidental death for which I am very thankful. I am not married. I served one enlistment as a medical officer for National Guard of Penna. Otherwise my life has been uneventful. I have enjoyed good health and am perfectly satisfied with my chosen calling."

Dr. Alexjaudro B. Guilliod. Not located.

Dr. Augustus J. Hambrook, Troy, N. Y. Doing very well in general medicine.

Dr. Edward W. Jackson, Rochester, N. Y., writes: "Interneship at Faxon's Hospital, Utica, N. Y., 1907-8. In May, 1908, located in general practice at Little Falls, N. Y. After one year of private practice conceived the idea of forming a medical partnership in a private hospital with two old and well known practitioners, myself to do all the surgery. This was done and we were very successful for three months when internal trouble broke up the combination and I got out at a considerable loss financially. In 1910, I again established myself at Little Falls in general private practice and was very successful, doing mostly surgery, up to July 12th, 1911, on which day I was thrown from my automobile and sustained a compound comminuted fracture of the right elbow joint. This injury incapacitated me until November, 1911, in which month being at Buffalo, N. Y., for treatment of the fractured arm, I opened an office for general practice. After two weeks of this, I developed a rheumatic condition in the joint which was unbearable and from which I seemed to be unable to get relief. Being advised to go South, I found the means of doing this through a friend who was also an executive of the Taylor Instrument Companies, Rochester, N. Y. This work was in reference to blood pressure and took me all over the United States and Canada, visiting the chief medical directors of all Life insurance Companies. The warm southern climate quickly relieved the pain and aches due to the arm condition and the work proved of the greatest value to me in the succeeding years. In July, 1913, having conceived the idea of establishing myself in special practice in Rochester, N. Y., I went to Europe and studied heart and circulatory conditions generally with MacKenzie and Lewis, of London, England, with occasional side trips to the continent. In February, I returned and established myself in special practice in Rochester, N. Y., where so far I have been very successful. On August 1, 1908. I married Irene Pierce Joyce of Buffalo, N. Y."

Dr. Dean W. Jennings, Catskill, N. Y., writes: "Interne Rochester General Hospital 1907-1909. Practiced in Rochester six months and in Cairo six years. Post graduate work in New York one and one-half years. Am now located at Catskill, N. Y., in general practice. having formed partnership with Dr. L. B. Honeyford. Married Miss Margaret Ritchie, of Orellia, Ontario, Canada, in 1911."

Dr. Clarence R. Kay, Peapack, N. J., writes: "The year following my graduation I spent as house physician in the Samaritan Hospital, Troy, N. Y.; the next year in Marshall's Sanitarium, Troy, N. Y., in the same capacity. I left there in June to assist Dr. Williard Sweet. Peekskill, N. Y. In September of the same year (1909) I came to Peapack, where I am still located, doing general practice."

Dr. Roy C. Keigher, Schenectady, N. Y., writes: "After graduation I did two years of post-graduate work, one year as an interne in the Albany Hospital and one year in the Bender Laboratory as pathological house officer to the Albany Hospital. August 1, 1909, I opened an office in Schenectady and the present time finds me still in the same old place; have been doing anything and everything that might come along. April, 1913, found me with an attack of pneumonia from which I promptly recovered; this is the only time I have been compelled to give up work since starting in practice. June, 1912, I took unto myself a wife. Miss Marcella D. Carrigan, of Pittsford, Vt. We have two children; Helen, age three, and Mary, age three months."

Dr. David Kidd, Holland Patent, N. Y., writes: "After graduating I spent one year as interne at Samaritan Hospital, Troy, N. Y. Then went to Marshall Sanitarium for about fifteen months. Practiced in Troy four years. Left Troy in 1913 for Holland Patent, N. Y., where I still remain."

Dr. Richard A. Lawrence, Albany, N. Y., writes: "After graduating from the Albany Medical I spent one year as interne at the Albany Hospital. In the fall of 1908 I hung out a shingle in the southern section of the city and remained in that location for two years. For the past seven years I have been located on Delaware Avenue, and have been very successful. I am married. Have two children, both girls. At the present time I am connected with the Medical College in the department of pediatrics. I am attending physician to the Infants Home and the Hospital for Incurables. I am attending physician to the children's clinic at St. Peter's Hospital, and assistant attending to the children's clinic at the South End Dispensary. I also look after the Infants' department at the Child Welfare Station run in connection with the Brady Maternity Hospital."

Dr. TIFFANY LAWYER, Albany, N. Y., writes: "Interne Albany Hospital. 1907-1908. Assistant to Dr. John A. Sampson since July 1, 1908. Assistant attending gynecologist to Albany Hospital and South End Dispensary. Attending gynecologist to Albany Hospital Dispensary. Married. One son, Tiffany Lawyer, Jr."

Dr. JACOB H. LINDEN, Cherry Valley, N. Y.

Dr. ROBERT S. LIPES, St. Johnsville, N. Y.

Dr. JAMES E. MALONEY, Ravena, N. Y., writes: "From graduation 1907 to December, interne and pathologist Willard State Hospital. January to October, 1908, surgeon Northes Iron Co., of Philadelphia. October, 1908 to June 2, 1911, First Lieutenant Medical Reserve Corps, U. S. Army. Honorable discharge 1911. July 5, 1911, to present time general practice Ravena, N. Y. Surgeon New York Central Railroad since June, 1914. Also examiner for Aetna and Equitable and two lodges."

Dr. JOHN S. McCORMACK, Boston, Mass.

Dr. JEROME MEYERS, New York City, writes: 1907-1908, interne, Albany Hospital; 1908-1910, post-graduate study abroad in gastro-intestinal diseases and internal diagnosis; 1910-1916, practice in Albany; 1914-1916, attending gastro-enterologist, Homeopathic Hospital; 1911-1915, instructor in gastro-enteric diseases, medicine and phys. diagnosis, Albany Medical College; 1914-1915, Adj.-Prof., materia medica and therapeutics, Albany Medical College; 1916. Practice in New York City, 203 West 81st street, assistant, gastro-enteric department and diabetic department, Mt. Sinai Dispensary. Author of a number of articles on gastro intestinal subjects."

Dr. ZENAS V. ORTON, Salem, N. Y., writes: "My history since graduation: I was in the Boston Emergency and General Hospital for about a year; then began practicing medicine at my present location. I have accumulated a Ford, a wife, a son, a daughter and an X-ray machine."

Dr. WILLIAM C. PORTER, Poughkeepsie, N. Y., writes: "1907-08, resident physician, Albany Homeopathic Hospital; 1909-1911, junior assistant physician, Hudson River State Hospital, Poughkeepsie, N. Y.; 1911-1912, assistant physician, State Hospital for Insane, Napa, California; 1912-1914, assistant physician, Hudson River State Hospital, Poughkeepsie, N. Y.; 1914-1917, senior assistant physician, Hudson River State Hospital, Poughkeepsie, N. Y. Married Ethel L. King in 1908. No children."

Dr. STEPHEN J. H. REED, Fultonville, N. Y., writes: "Born in Schenectady, N. Y., November 4, 1881. Attended public schools of Schenectady,

N. Y., graduating from The Union Classical Institute or High School of Schenectady, N. Y., with the Class of 1903. Graduated from the Albany Medical College with the Class of 1907. Class Marshal. Received Senior appointment at the Ellis Hospital, Schenectady, N. Y. Medical Interne at Manhattan State Hospital, Ward's Island, New York, February 4, 1908 to October 21, 1908. House physician to Physician's Hospital, Schenectady, N. Y., October 22, 1908 to May 10, 1909. Junior assistant physician to Hudson River State Hospital, Poughkeepsie, N. Y., May 10, 1909 to May 15, 1911. Expresident of Montgomery County Medical Society. Coroner of Montgomery County since November 14, 1911; second term unexpired."

Dr. Fred J. Rice, Buffalo, N. Y.

Dr. James T. Riley, El Reno, Oklahoma, writes: "After graduating I took the New York State Board examination and received my certificate. I then spent one year in the Sisters of Charity Hospital, Buffalo, N. Y. After practicing a short while in Akron, N. Y., I came to El Reno, Oklahoma, in September, 1908, where I am still practicing. I am a member of the staff of the El Reno Sanitarium. Each summer I have taken a post graduate course either in the East or at Mayo Brothers in Rochester, Minn. In 1909 I married Miss Frances Burrows of Oklahoma City."

Dr. Frederick Seilheimer, Buffalo, N. Y., writes: "Immediately after graduation from the Albany Medical College, I returned to my home city to visit my parents and then went to Boston, Mass., to take a special course under the direction of Dr. Richard Cabot at the Harvard Medical School; then I went to the New York Polyclinic for obstetrics, and after spending the summer I returned to Buffalo in September and started to practice in this city, where I have practiced since. Am physician and surgeon for the Buffalo Forge Co., E. L. Squire Mfg. Co. and the Buffalo Steam Pump Co. of Tonawanda, N. Y. On the Civil Service Board of the City of Buffalo as medical examiner, and examiner for several lodges in this city, and do a general practice with an inclination toward G. U. work. Not married."

Dr. William F. Shanley. Not located.

Dr. James J. Shea, Hicksville, N. Y.

Dr. William C. Treder, Scotia, N. Y., writes: "After graduation I accepted an interneship at Ellis Hospital, Schenectady, N. Y., where I served until June 15, 1908. After leaving the Ellis I spent a few weeks at Bender Laboratory brushing up in the study of pathology and bacteriology in order to be prepared to take up my duties as assistant in that department at Syracuse Medical College. I entered upon my duties at Syracuse in July, 1908, and continued in their service until June, 1909, when I accepted the post of assistant bacteriologist in the Department of Health in the City of Syracuse and continued there until March, 1910, when I pulled stakes and started for Scotia, N. Y., where I have been located ever since indulging in the practice of general medicine. In

April, 1910, I married Anna Leonard. Have two children, William, Jr., aged five years, and Mary Elizabeth, aged four weeks."

Dr. Herbert J. Wright, Schoharie, N. Y., writes: "After leaving the Albany Medical College I entered the Homeopathic Hospital as interne and remained there one year. In 1908 I wandered out in Schoharie County and finally located in Schoharie, the county seat. My practice started just as soon as I located, and has been a very extensive practice since. I have many a hard drive in the country through mud and over snow banks. In 1911 I married Miss Lessie Shafer of this place and moved my office and residence to the present location. Have a fine boy, Herbert Jr., four years old. My work here is general practice, but I do a great deal of minor surgery and obstetrical work, having had about fifty cases during 1916."

Tiffany Lawyer,
Historian, 1907.

The Nominating Committee submitted the following report by its secretary, Dr. William L. Fodder:

For President.

Dr. Robert B. Lamb ('91), Beacon, N. Y.

For Vice-Presidents.

Dr. Daniel C. Case ('70), Slingerlands, N. Y.
Dr. Charles S. Prest ('98), Waterford, N. Y.
Dr. Fred C. Leonard ('97), Carbondale, Pa.
Dr. Tiffany Lawyer ('07), Albany, N. Y.
Dr. Dormar Baldwin ('77), Oneonta, N. Y.

For Recording Secretary.

Dr. J. Montgomery Mosher ('89), Albany, N. Y.

For Corresponding Secretary.

Dr. Clinton B. Hawn ('06), Albany, N. Y.

For Treasurer.

Dr. Robert Babcock ('84), Albany, N. Y.

For Historian.

Dr. Arthur J. Bedell ('01), Albany, N. Y.

For Members of the Executive Committee (Term Three Years).

Dr. Daniel H. Cook ('73), Albany, N. Y.
Dr. William H. George ('94), Albany, N. Y.
Dr. Richard A. Lawrence ('07), Albany, N. Y.
Dr. Harry Rulison ('05), Albany, N. Y.

On motion of Dr. Jenkins, seconded by Dr. Conley, the report was accepted and the recording secretary was directed to cast one ballot for the names contained in the report. Dr. Mosher then read the names and President Smith declared the nominees duly elected officers of the association for their respective terms.

Dr. Haswell introduced the following resolution, which was adopted after discussion:

Whereas, without physicians there can practically be no army, and

Whereas: It is absolutely necessary to guard against a shortage of physicians, therefore

Be it Resolved: That it shall be the duty of every alumnus to encourage desirable young men to study medicine, *i. e.,* to institute a campaign for medical students.

Announcements of the program of the day, the commencement exercises and alumni luncheon having been made, and no further business appearing, the Association adjourned.

COMMENCEMENT EXERCISES.

The eighty-sixth commencement exercises of the Albany Medical College were held in the Auditorium of the New York State Education Building, on Friday afternoon, June 8, 1917, at three o'clock, in the presence of a large audience. Hon. Simon W. Rosendale, President of the Board of Trustees of the College, presided, and upon the stage were seated the members of the Faculty, officers of the Alumni Association, and prominent citizens.

The following was the

ORDER OF EXERCISES.

SIMON W. ROSENDALE, LL.D., PRESIDING.
President of Board of Trustees.

Music—Selection.
Prayer..................................SAMUEL H. GOLDENSON, PH.D
Address..................................THEOBALD SMITH, M. D., LL.D.
Director, Division of Animal Pathology,
Rockefeller Institute for Medical Research
Music—Selection.
Award of Prizes..........................LUTHER H. TUCKER, A. M.
Secretary of Board of Trustees
Conferring Degrees........CHARLES ALEXANDER RICHMOND, D.D., LL.D.
Chancellor of the University
Music—Selection .

(HOLDING'S ORCHESTRA)

The Graduating Class was as follows:

Stanley Earl Alderson	Little Falls
Milton Aronowitz, B. S.	Albany
James Michael Bernhard	Schenectady
Sidney William Bisgrove, B. S.	Schenectady
Anathol Michael Breault	Cohoes
Leroy Joseph Butler	Waterford
Byron Edwin Chapman	Broadalbin
Norman Scott Cooper	Athens
Leon Charles Coté	Lake George
Lawrence Henry Cotter	Poughkeepsie
Howard Wilcox Davis	Schenectady
Edward Thomas Delehanty	Albany
Louis Joseph DeRusso	Albany
Albert Stuart Ferguson	Schenectady
William Edwin Gazeley	Albany
Samuel William Green	Brooklyn
Daniel Francis Hannon	Pittsfield, Mass.
Harold Colvin Haviland	Hudson Falls
Kent Wood Jarvis	Delanson
Howard Marion Kenyon	Albany
Raymond Francis Kircher	Albany
Maximilan Kohlenberg, Jr.	Brooklyn
Robert Atherton MacTaggart	Schenectady
John Francis McGovern, Jr., B. S.	New Brunswick, N. J.
Charles Mester	New York
William Panitch	Brainard
George Trecise Polk, Jr.	Poughkeepsie
John Joseph Randall	Albany
Jacob Resnik	New York
John Harry Robbins, Ph.G.	Albany
John Hourne Robertson	South Glens Falls
Ivan Michael Schneible	Albany
Norman Leo Sheehe	Dunkirk
George Milo Thomas	Adams Centre
Ralph Waldo Turner	Albany
Chester Bruce Van Gaasbeek	Kingston
Irving Van Woert	Albany
George Clark Vogt	Syracuse
Frank William Wehle	Rochester
Aaron Weinberg	New York
Earle Wayne Wilkins	West Albany
Burchard Alfred Henry Winne	Hancock

Mr. Tucker announced the award of prizes. The Vander Poel Prize, endowed by Mrs. Gertrude W. Vander Poel, in memory of her husband, the late S. Oakley VanderPoel, for many years a professor in the College, consisting of a clinical microscope and accessories, offered to the senior student passing the best bedside examination in general medicine, was awarded to Dr. Stanley Earl Alderson.

The prize, consisting of an ophthalmoscope, offered by Dr. Merrill for the highest standing during the senior year in ophthalmology and otology, was awarded to Dr. Stanley Earl Alderson.

The Townsend Physiology Prize, endowed by the late Professor Franklin Townsend, Jr., M. D., was awarded to Mr. Percy Lawrence De Noyelles, for passing the best examination in physiology at the end of the first year of study.

Owing to the fact that this year two students were equally qualified for the Townsend physiological prize, the trustees awarded a prize of twenty dollars to the other student passing an equally good examination in physiology at the expiration of his first year of study in physiology. This prize was awarded to Mr. Lawrence Daniel Greene.

Dr. Boyd's Prize to the senior student passing the best final examination in obstetrics was awarded to Dr. Jacob Resnik.

The Daggett Prize, consisting of sixty dollars, for the best " anatomical specimens," was awarded to Mr. Anton S. Schneider, and the second Daggett Prize, amounting to thirty dollars, was awarded to Mr. Douglas Anderson Calhoun.

The Daggett first prize for the best " deportment irrespective of scholarship," consisting of sixty dollars, was awarded to Dr. Albert Stuart Ferguson, and the second prize, consisting of thirty dollars, was awarded to Dr. Leon Charles Coté.

The Bigelow Prize, endowed by the late Professor John M. Bigelow, M. D., consisting of eighty dollars, offered to the senior student passing the best examination in diseases of the nose and throat, was awarded to Dr. Samuel William Green.

The following hospital appointments are announced:

Albany Hospital: Stanley Earl Alderson, Milton Aronowitz, James Michael Bernhard, Leon Charles Coté, Edward Thomas Delehanty, Albert Stuart Ferguson, Daniel Francis Hannon, Harold Colvin Haviland, Robert Atherton MacTaggart, Ralph Waldo Turner, George Clark Vogt, Earle Wayne Wilkins.

Samaritan Hospital, Troy: Charles Mester, William Panitch,

Troy Hospital: Leroy Joseph Butler.

Ellis Hospital, Schenectady: Anathol Michael Breault, William Edwin Gazeley.

Metropolitan Hospital, New York City: Norman Scott Cooper, George Trecise Polk, Jr., John Hourne Robertson.

Gouverneur Hospital, New York City: Howard Wilcox Davis.

Polyclinic Hospital, New York City: Louis Joseph DeRusso.

Harlem Hospital, New York City: Samuel William Green, Jacob Resnik.

St. John's Hospital, Brooklyn: Kent Wood Jarvis, Ivan Michael Schneible.

Binghamton State Hospital: Howard Marion Kenyon.

St. Francis Hospital, Hartford, Conn: Raymond Francis Kircher.

Hudson Street Hospital, New York City: John Francis McGovern, Jr.

St. Joseph's Hospital, Far Rockaway: John Joseph Randall.

St. John's Hospital, Yonkers: John Harry Robbins.

St. Mary's Hospital, Hoboken, N. J.: Norman Leo Sheehe.

Rochester General Hospital: Frank William Wehle.

Christ Hospital, Jersey City, N. J.: Aaron Weinberg.

Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.
ABSTRACTS OF VITAL STATISTICS, JUNE, 1917.
COMPILED BY WILLIAM F. FULLGRAFF, REGISTRAR.

Deaths.

Consumption	22
Typhoid fever	0
Scarlet fever	0
Measles	1
Whooping cough	0
Diphtheria and croup	0
Grippe	0
Diarrheal diseases	2
Pneumonia	3
Broncho pneumonia	7
Bright's disease	5
Apoplexy	8
Cancer	23

Accidents and violence	11
Deaths under one year	15
Deaths over seventy years	36
Death rate	16.72
Death rate less non-residents	14.49

Deaths in Institutions

	Non-res.	Res.
St. Peter's Hospital	1	9
Albany Hospital	6	11
Albany Hospital Camp	3	6
Home of the Friendless	0	2
Albany County Hospital	1	2
Homeopathic Hospital	3	7
Small Pox Hospital	1	0
Home for the Aged	3	2
Maternity Hospital	0	2
Public places	0	3
Child's Hospital	1	1
Hospital for Incurables	3	1
Totals	22	46
Births	191	
Still births	11	

BUREAU OF COMMUNICABLE DISEASES.

Cases Reported.

Typhoid fever	5
Scarlet fever	24
Diphtheria and croup	3
Chickenpox	30
Smallpox	5
German measles	145
Measles	109
Whooping-cough	9
Tuberculosis	30
Epidemic cerebro-spinal meningitis	1
Mumps	1
Septic sore throat	1
Trachoma	1
Ophthalmia neonatorum	1
Puerperal septicaemia	1
Total	366

Number of days quarantine for scarlet fever:
Longest....... 71 Shortest....... 30 Average....... 35 2/15
Number of days quarantine for diphtheria:
Longest....... 18 Shortest....... 18 Average....... 18
Fumigations:
Houses.................. 44 Rooms.................. 261
Milk bottles disinfected.. 880

Communicable Disease in Relation to Schools.

	S F	M
Public School No. 2	..	1
Public School No. 4	2	..
Public School No. 10	..	1
Public School No. 13	2	1
Public School No. 14	..	1
Public School No. 15	..	1
Public School No. 16	..	1
Public School No. 17	4	8
Public School No. 18	..	3
Public School No. 20	..	1
Public School No. 21	1	..
Public School No. 24	..	4
Blessed Sacrament School	..	1
St. John's School	2	..
St. Joseph's Academy	2	2
St. Patrick's School	1	1
Lady of Angels School	..	1
St. Ann's School	..	4

TUBERCULOSIS.

Living cases on record June 1, 1917		754
Cases reported:		
By card	31	
Dead cases by certificate	0	31
		785
Dead cases previously reported	23	
Died out of town	2	25
Living cases on record July 1, 1917		760
Total tuberculosis death certificates		23
Non-resident deaths:		
Albany Hospital Camp	3	3
Resident deaths		20

Visits to Cases of Communicable Disease.

Tuberculosis	50
Miscellaneous	6
Visits to physicians	12

BENDER LABORATORY REPORT.

Diphtheria.

Initial positive	6
Initial negative	198
Release positive	2
Release negative	36
Suspicious	1
No growth	3
Total	246

Sputum for Tuberculosis.

Positive	17
Negative	72
Suspicious	1
Unsatisfactory	1
Total	91

Widals.

Positive	6
Negative	21
Suspicious	5
Total	32
Wassermann tests	184
Milk examinations	112
Pathological specimen	1

BUREAU OF NUISANCES.

Complaints made	99
Inspections	127
Plumbing	70
Sanitary	57
Reinspections	106
Plumbing	47
Sanitary	59

HEARINGS.

Cases heard before health officer	8

Class of Cases.

Stagnant water	2
Filthy premises	2
Sewerage	1
Plumbing	1
Drain	1
Ventilation	1

Disposition of Cases.

Abated	3
Reinspection	5

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

Inspections	153
Old houses	60
New houses	93
Permits issued	83
Plumbing	63
Building	20
Plans submitted	21
Old Buildings	7
New buildings	14
Houses tested	51
Blue or red	15
Peppermint	6
Water test	30
Houses examined	54
Re-examined	96
Valid	29
Without cause	25

DEAD ANIMAL REPORT.

Horses removed	17
Dogs removed	247
Cats removed	470
Total	734

BUREAU OF MARKETS AND MILK.

Public market inspections	25
Lactometer readings	190
Temperature readings	190
Fat tests	66
Sediment tests	85

Chemical tests	42
Bacterial counts	61
Stores inspected	84
Cans inspected	1098
Milk depots inspected	9
Dogs examined for rabies	2

MISCELLANEOUS.

Cards posted for communicable disease	144
Cards removed	155
Notices served on schools	374
Notices served on stores and factories	76
Postal card returns sent to doctors	144
Postal card returns received from doctors	155
Inspections and reinspections	158
Work certificates issued to children	85
Vaccinations	97
Cases assigned to health physicians	52
Calls made	102
Garbage collected from first district (bbls.)	198
Garbage collected from second district (bbls)	180
Garbage collected from third district (bbls)	150

Medical News

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR JUNE, 1917.—Number of new cases, 146. Classified as follows: Dispensary patients receiving home care, 5; district cases reported by health physicians, 5; charity cases reported by other physicians, 25; moderate income patients, 70; metropolitan patients, 41; old cases still under treatment, 39; total number of cases under nursing care during month, 185. Classification of diseases for the new cases: Medical, 35; surgical 6; gynecological, 2; obstetrical under professional care. mothers 48, infants 44; eye and ear, 3; skin, 0; throat and nose, 0; dental, 0; infectious diseases in the medical list, 8; infectious diseases in the surgical list, 0. Disposition: Removed to hospitals, 0; deaths, 9; discharged cured, 94; improved, 20; unimproved, 14; number of patients still remaining under care, 48.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 2; students in attendance, 1; nurses in attendance, 2; patients carried over from last month, 0; new patients during month, 3; patients discharged, 2; visits by head obstetrican, 0; by attending obsterician. 11; by students, 2; by nurses, 19; total number of visits for this department, 32.

Visits of Guild Nurses (all departments).—Number of visits with nursing treatment, 969; for professional supervision of convalescents, 320; total number of visits, 1,269; pay patients, 728; charity patients, 241; unrecorded patients, 320; cases reported to the Guild by 3 health physicians, and other physicians; graduate nurses, 5; certified nurses, 2; pupil nurses, 4 on duty.

Dispensary Report.—Number of clinics held, 75; new patients, 78; old patients, 361; total number of patients treated during month, 439. Classification of clinics held: Surgical, 11; nose and throat, 7; eye and ear, 14; skin and genito-urinary, 7; medical, 10; prenatal, 3; lung, 6; dental, 0; nervous, 2; stomach, 2; children, 5; gynecological, 8.

PERSONALS.—Dr. SILAS L. FILKINS (A. M. C. '04), is now established in practice at 601 West 156th street, New York City.

—Dr. ARTHUR J. BEDELL (A. M. C. '01), publishes an abstract of a paper on "Oxycephalus," profusely illustrated, in the Journal of the American Medical Association of June 30, 1917.

—Dr. THOMAS D. CROTHERS (A. M. C. '65), publishes a contribution, "Physicians' Influence in Charity Work," in the Medical Record of June 30, 1917.

—Dr. THEODORE S. WEST (A. M. C. '16), who has finished his term in the Albany Hospital, will enter temporarily upon general practice in New York City.

MARRIED.—Dr. WILLARD E. WHEELOCK and Miss Margaret K. Bain were married at Canajoharie, N. Y., on June 23, 1917 Dr. Wheelock is in active practice at Rockville Centre, L. I.

DIED.—Dr. W. N. FLEETWOOD (A. M. C. '58), died at his home in Cochran, Ga., May 4, 1917, aged 82.

—Dr. PETER GREGORY COTTER (A. M. C. '87), died at his home in Los Angeles, Cal., June 16, 1917, aged 60.

In Memoriam

PETER G. COTTER, M. D.

Dr. PETER G. COTTER, a graduate of the class of 1887 of the Albany Medical College, died at his home in Los Angeles, Cal., June 16, 1917, aged 60.

Dr. Cotter was born in Plattsburgh, N. Y., and after finishing his medical course completed his course at Vienna, Rome and Edinburgh. He began practice in Los Angeles in 1903, and continued in active work until two years before his death when he was forced to retire following a stroke of paralysis. He was a worker in the St. Vincent de Paul Society, and had membership in the California and Newman clubs and the Los Angeles Chapter of the Knights of Columbus. He leaves a widow, one son, a sister and two brothers.

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Original Communications

THE INFLUENCE OF DEFECT AND VENEREAL DISEASES UPON THE PUBLIC WELFARE.

A lecture delivered before the students of the Albany Medical College, March 21, 1917.

BY DR. ROBERT W. HILL,
Superintendent of State and Alien Poor.

Civilization has undertaken the extermination of many social plagues, among others fevers, tuberculosis, and contagious diseases of various types, and for the protection of society is compelling the general recognition of the laws of personal purity and social sanitation. Modern philanthropy has thrown down the gage of battle to mental defect, venereal diseases, commercialized vice, and all the evils, both to individuals and communities, which follow in their train. The conflict has begun, but the moral resources of society must all be enlisted if the battle is to prove successful. Self-denial, faith and courage are required and above all things the power of an educated public opinion, made authoritative by the studies of our physicians and other scientists.

It is well known that the Albany Medical College has arranged its annual lecture course as an educational opportunity for the public to join with the students in the consideration of social problems which are directly related to health, morals and general welfare. Physicians need the moral support of intelligent laymen in these matters else their plans for community improvement may not succeed and by these courses in public health a better understanding of social needs is obtained and both student and laymen are better prepared for efficient work against the many evils which beset society.

Defect a Consequence.

It may appear to some that joining " Defect and Venereal Diseases " in the title of an address brings together social problems which are not always closely related, but when it is remembered that defect is, in many instances, an inheritance directly traceable to specific diseases it is apparent that the consideration of the topic as given may be of assistance to those whose work is largely social sanitation for we now place syphilis and gonorrhoea where they belong—among the virulent contagions which carry their evil effects to posterity, and in very many cases cut off its possibility.

The ravages of venereal disease constitute an ancient scourge with which even modern civilization has not effectively grappled. The child of infected parents may sometimes be born sound but there are terrible possibilities of inherited unsoundness. Unfortunately the social aspects of this grave problem of venereal disase are full of practical difficulties and there is need of a quickening of the public sense to a full realization of wise reform. The medical profession must purge itself of hesitancy and give sincere co-operation in efforts to make known the social danger which exists. Information of an accurate and comprehensive nature, dealing with the prevalency and spread of venereal disease is a vital necessity.

More Deadly than Tuberculosis.

It has been said recently that venereal diseases are more dangerous to society than tuberculosis. The State has waged a protracted campaign against the latter and the public is now familiar with its prevalence and the economic loss which it causes the commonwealth but as illustrative of the more baneful spread of venereal disease the most recent statistics available for the city of New York, the reports of contagious diseases required to be filed with the Department of Health, reveal the fact that so far in the year 1917 the weekly average number of new cases of syphilis has been 471, while the weekly average number of new tuberculosis cases reported has been only 365. If to this weekly average number of new cases of syphilis there is added the weekly average reported for gonorrhea, there has been so far in 1917 a weekly average of 597 new cases of venereal disease reported. In other words 7,761 new cases of venereal diseases were reported by attending physicians to the New York City Department of Health thus far in 1917 and during the same weeks 4,743 new cases of tuberculosis. Without in any degree minimizing the deadly effect of tuberculosis it is apparent that the social menace of venereal disease is even more appalling in New York City and no doubt elsewhere in the State similar conditions exist for it must be remembered that all cases of contagious disease are not reported as required by law. The real facts are often suppressed for personal reasons, but even with the knowledge that they fall far short of the real number of cases the figures presented show the fearful prevalence of venereal disease.

Problem Both Social and Economic.

The numerous institutions supported by the State of New York for the custodial care of the feeble-minded, the epileptic, and for insane individuals unfitted for self-care, and the large numbers in each of these groups, makes it apparent that we have for solution not only a grave social problem, but one with an economic side as it involves annually a very large expenditure of public funds. When attention is directed to the thousands of mental defectives segregated in institutions the importance of the economic phase of the problem is apparent. The more dangerous and important phase is the freedom of the multitude of defectives who should be under institutional care. Those who are placed in custodial asylums and in State hospitals can be effectively controlled, but those not under restraint are often carriers of contagious disease, corrupters of morals, and breeders of undesirable children who in turn become dangerous to public welfare. If it were possible to cut off the propagation of the defective and unfit, men and women would soon become what society desires—strong, progressive, intelligent, moral and able to cope with the ever-changing conditions which affect human life. Unfortunately society has long suffered from the weakening influences disease and defect which are constantly undermining the physical and mental powers, each century apparently increasing the evil until now the welfare of the whole race is menaced.

As has been said, the mental defectives in our communities are frequently the carriers of disease and this is especially true of the so-called venereal or sexual diseases. It must not be understood, however, that the feeble-minded alone are involved in the spread of these contagious diseases, for their prevalence must be laid at the door of others. The inability of the feeble-minded to protect themselves makes them not only victims of venereal disease but its propagators also and in the final settlement of responsibility we find them associated with conditions which assure their injury and that of society as well.

There has been great reluctance to speak plainly of social or sex evils but surely the voice of warning should be lifted by the physician who has been educated to protect health and prolong life, to guard the young and maintain the vigor of old age. In the social program he should know and point out to others the special evils which beset society and be informed of all that science is doing to prevent the spread of disease and place safeguards at the sources of life.

Venereal Disease Among Criminals.

In times past society struggled against disease more or less blindly. Now, however, scientists and investigators have discovered the causes of many diseases heretofore baffling, among them the venereal diseases, for which science has found the means of control. Since the introduction of the Wassermann test as a diagnostic measure we have reliable information concerning the prevalence and proportion of syphilis in our state. Heretofore we have guessed at the prevalence of the disease but now we are accumulating statistics of scientific value. For example, tests made on all the patients admitted to Bellevue and the Presbyterian Hospitals in New York City recently showed that there are between 20 and 25 syphilitics in each 100 cases taken under care, while the Wassermann tests of 4,000 patients in the Peter Bent Bingham Hospital in Boston gave 600 positives, indicating that 15 per cent of the patients were affected. These figures however do not cover the prevalence of this disease in either

New York or Boston, because people often go to hospitals for "heart trouble" and local "nerve disorders" not directly referable to an infection but which may be due to an inherited weakness caused by the disease.

Prisoners and Delinquents.

The Health Department of New York City recently made a series of tests with startling results; 291 men awaiting trial in the Tombs prison were tested for syphilis and 45 of them or 11.5% were found infected with the spirochetae. At Hart's Island the blood test of 544 boys committed as delinquents proved that 37 or 6.8% were syphilitic. Of 258 prisoners in the penitentiary on Blackwell's Island, where both sexes were examined, 62 or 24.5% had syphilis and of 2,621 men and women committed to the workhouse the blood of 45.7% gave positive reactions, thus proving that of this special group of 3,809 prisoners committed for short terms 42.2% were syphilitic. As many of the other prisoners were under treatment for gonorrhoea this one group makes it apparent that the prevalence of venereal disease among criminals constitutes a real social menace.

But the foregoing figures, startling though they are, do not include the younger class of delinquents who are inmates of state reformatory institutions and in three of them the percentage of inmates who when committed had venereal diseases is equally high. Both the New York State Reformatory for Women at Bedford Hills and the Western House of Refuge for Women at Albion receive young women, between the ages of 16 and 30 years, who are not insane. These women are sentenced for misdemeanor, petty larceny, vagrancy, habitual drunkenness, prostitution or for frequenting disorderly houses or houses of prostitution.

At the Bedford Hills institution examinations have been made of 1,152 inmates of whom nearly 80% had venereal diseases; 12.7% showed syphilis, 27% gonorrhea, and 40% had both diseases. It is not surprising the mental tests of these women indicated that 25% were feeble-minded. They are committed from the metropolitan district chiefly.

At the Western House of Refuge, Albion, to which commitments are made from other sections of the state, the percentage of inmates having syphilitic infection runs much higher. The tests showed 32% positives, which may be accounted for by the fact that recent mental examinations there indicated that 34.9% of all the inmates were distinctly feeble-minded, and that 48% of the others were "mentally retarded." These figures show that in these two institutions for young women of the same physical ages, committed for like offenses against society, 29.8% were found syphilitics and 51% infected with gonorrhea, or in other words that over 80% of all inmates of these State reformatories were carriers of venereal disease.

There must be added to these figures to show the prevalence of venereal disease among inmates of State reformatories those of the New York State Reformatory at Elmira to which young men are committed and where there has been a total of 8,000 admissions to January 1, 1916, of whom 33% had active gonorrhea when admitted or previously and of whom 40% indicated lack of normal mental development.

Thus there are in these three State institutions a large number of delinquent young men and women who during their most active period of virility and strength are disseminating sources of physical contagion and mental defect, and who despite their condition will be allowed the freedom of the State later as their custodial care is only temporary.

Still another detail: The New York State Training School for Girls at Hudson is for the reception of young girls *under* 16 years of age and it has had 1,400 of this class under care. The clinical diagnoses reported by the school show that 7% of the very young girls entered with active gonorrhea and that 3% had active syphilis. The number of congenitals and of those suspected but exhibiting no active symptoms were not reported as the Wassermann tests were of selected cases only. It should be added that in the last two years the diagnoses indicate a greater proportion of these children were affected with gonorrhea than in previous years for the proportion in 1915 was 8% of all admissions and in 1916 15%. While in the first three months of 1917 23% had the disease in an active stage and as in other institutions many were of the feeble-minded class.

Syphilis and Epilepsy.

In a paper read before the Genesee County Medical Society August 1915, the superintendent of Craig Colony for Epileptics states that the Wasserman test was applied to the blood serum of 886 cases, having a history or physical condition that aroused a suspicion of syphilis and that 22 or 2.48% gave positive reactions. Still later in the summer of 1916 the Wassermann test was given to practically the entire population of the Colony, when of 845 males, 1.42% positively reacted to the test as did 1.76% of the 628 females, thus indicating that of a total of 1,473 patients 1.59% were actively syphilitic with the probability that many others were affected although they did not react. There are not many reports on the prevalence of syphilis among epileptics but some writers hold that epilepsy and syphilis are frequently associated as cause and effect but while this may be true it should be stated that insofar as the epileptic class is concerned the proportion of syphilitics is about the same as in the general population and that while "acquired" syphilis is frequently noted in epileptics its influence as a direct cause of epilepsy is not yet known beyond its effect upon the brain and the fact that in many cases doubtless its constitutional effects upon parents prepare the way for onsets.

The available data relative to the feeble-minded in the State Custodial institutions of this State shows 4.2% of all have syphilis indicating that it is three times more prevalent among these dependents than among the epileptics and this in turn connects the tendency to delinquency with the baneful social influence of the feeble-minded. The percentage given is deduced from the fact that in the Rome State Custodial Asylum which receives both male and female feeble-minded patients Wasserman tests made last year on the blood serum of 800 inmates showed 4½% to be syphilitic while in the State Custodial Asylum for feeble-minded women at Newark where 835 inmates were tested in 1916, 4% had syphilis.

Syphilis and Insanity.

Many of the State hospitals for the insane are doing intensive work in the study of certain mental diseases and their relation if any to specific infection. It has been generally conceded for the past twenty years that paresis is due to a disease of the brain, syphilitic in origin, but until the discovery of the Spirochetae Pallida in 1905 and the use of tests, physicians were not awake to the fact that syphilis holds such a prominent place among the factors which lead to mental derangement. Hence the statistics of the insane have special value when the social menace of venereal disease is under consideration.

The percentages of all admissions in State hospitals due to psychosis, paresis, alcoholic insanity and dementia praecox for the past four years to July 1st, 1916, are suggestive. They were as follows:

	1913	1914	1915	1916	
Paresis.	12.7	12.3	13.1	13.1	(to July 1st)
Alcohol.	9.4	7.4	5.6	6.1	(to July 1st)
Dementia praecox . . .	16.8	18.0	21.3	18.5	(to July 1st)
	38.9	37.7	40.0	37.7	

Ignorance and Disease.

It will be observed that approximately 38% of all admissions were of patients of these three classes, and as stated heretofore behind the effect there was in a large proportion of the cases a common cause—poisoned blood. In this connection the fact that all these cases were between 15 and 44 years of age on admission is of interest as is the fact while all the dementia praecox cases were committed by their thirtieth year, and ages of the paresis cases admitted ranged between 15 and 40 years of age, although the average of admissions was fairly constant from year to year.

As a passing comment upon the effect of venereal disease upon mental development it may be said that a large proportion of the insane whose condition is traceable to syphilis shows that education stopped early in life because the degenerative factor gained control at the period of greatest mental stress. For example, in the cases of paresis and dementia praecox although 61% had attended common schools only 5% had gone to high school and 23.4% could only read and write their names and a few short sentences.

The Terrible Toll.

Recently 408 patients committed to the Buffalo State Hospital from October 1, 1914 to September 30, 1915 were tested and 12% were found cases of paresis and cerebral syphilis, while there was a positive Wassermann reaction in 16.4% of all tested. Wassermann tests were also given to 2,838 other patients, men and women, including all types of mental derangement, of whom 13.77% showed positive reactions. Of these syphilis patients, the majority were men as was also the case in the "general paralysis," "brain syphilis" and "tabes" groups.

Another series of tests were made on 2,601 cases. From this series all cases of general paralysis, brain syphilis and tabes were excluded, yet 6.38% of the others showed syphilitic infection. In this connection it may be stated the proportion is practically the same in other states, as for example in Massachusetts where the clinical findings in a group of 1,573 patients tested since May 1912 in the State Hospital at Danvers, show that 16% of all were positively syphilitic and most of this group were victims of paresis.

Common Danger.

Other statistics are also illuminating as to the danger of the public. Thus in the examination of 1,107 applicants for peddlers' licenses in New York City, 8.2% gave a positive Wasserman reaction, and doubtless their assistants were equally affected which is an indication of the danger of spreading the disease by their handling of food. Then too the New York State Department of Health reported in its first year of laboratory service the examination of over 5,000 specimens from cases of suspected syphilis and in 1916 the number of such specimens had increased to 21,000 and the diagnoses (Wasserman) of syphilis were double the number of the preceding year, while to go further afield to estimate the social danger, the report of the Public Health Commission of Minnesota says:

"The importance of the venereal diseases as a public health problem becomes increasingly apparent. When we say that gonorrhea and syphilis cause untold social and economic loss we are admitting our inability to obtain a reasonable estimate through reliable statistics. As has been stated, vital and morbidity statistics are the basis of public health science.

" The disease known as ophthalmia neonatorum causes the loss of sight in large numbers of cases. This infection is communicated at birth but may be entirely eradicated by the use of a simple prophylactic, supplied by the State Board of Health which has now authority to require its use on the eyes of the newly born."

A Military Problem.

In this time of world war it should be said that not only at home in times of peace but in the camps of all the nations at war venereal diseases are reducing military strength on the battle front and everywhere corrupt law, order and efficiency.

Thus a writer in *The Military Surgeon,* July 1916, says:

" In the campaign of 1870—42.6% per thousand of the sick of the average mobilized forces were recorded as receiving treatment for venereal diseases.

" In the present war a thorough and careful inspection of 2,200 men revealed over 60% of lesions found upon almost every part of the body, this diagnosis being substantiated by a Wasserman reaction.

" Statistics of the French, German and Austro-Hungarian armies show that the number of troops both in the home zone and on the front are acquiring venereal diseases with results that far out-distance the records of any previous wars."

Of course this is only an estimate of the prevalence of syphilis as the men tested were of those who requested medical care. It is however certain that venereal diseases are now very prevalent in armies and seriously weaken the fighting forces.

Wherever camps are established camp followers gather and carry venereal disease. Unrelaxing vigilance alone can prevent its steady dissemination. In such camps both the National Guard and the regular army soldiers are ever beset by temptations and the moral danger to which they are exposed is constant and deadly. Although remedial measures are taken neither prophylaxis nor cure equal moral control and prevention, and therefore it is well to know that special efforts are to be made by a federal commission to combat the peril which commercialized vice presents so that American soldiers in the field may not suffer from this evil as have the armies of Europe.

Gonorrhea Wide-Spread.

While syphilis is thus a deadly social plague, it should not be forgotten that gonorrhea is also deadly and equally a menace to society—and has far reaching after-effects especially on females as it causes invalidism and sterility and 80% of the abdominal operations on young women. Some indication of its prevalence may be deduced from the fact that at the Boston Dispensary the director states 1,500 cases of gonorrhea in men and boys are treated annually and at the Venereal Clinics A and B, in New York City 70% of all applicants for treatment had acute gonorrhea, the sources of infection being distributed as follows:

37 per cent—street prostitutes
19 " house prostitutes
10 " domestics.
10 " were " friends "
8 " working women
2 " wife
15 " unknown

From this it is apparent that cases of venereal disease are usually associated with the social evil and with alcohol and it is well to note here that 19.4% of all commitments to the State hospitals for the criminal insane in 1915 were found to be due to alcohol as immediate causal factor, while in the civil hospitals the percentage was 10.2% or over 9% less.

The Association with Other Diseases.

Another important fact for consideration is that venereal disease is associated with other diseases and is frequently their cause. Even laying aside its terrible terminal effects on the brain and spinal cord it is found that syphilis seems to ravage nerve, bone, blood and tissue all along its route, and opens the way for the more serious organic diseases. This is evidenced by the fact that in 500 autopsies on syphilitics summarized from the records of Leipzig Hospital recently, it was found that 80% had more or less grave disease of the aorta, while in the hospital of the University of Michigan of 390 gynecologic patients subjected to the Wasserman test—5.6% showed syphilitic infection, and in 132 cases of malignant diseases of various types, Dr. Bushman, serologist to Barnard Free Skin and Cancer Hospital, St. Louis, reported 6% associated with syphilis.

Progress and Pathological Effects.

But enough of statistics—what can be done to remedy the increasing evils? The causes of venereal diseases are well known. Their effects on body and mind are manifest yet society has made little effort to protect itself from their direful consequences. It is aware of what takes place when these diseases are established but seems indifferent. The victims of syphilis themselves fail to appreciate, until too late, the abnormal changes which take place in the body. They may notice at first a small localized lesion which may appear on any part of the body and yet not realize it is due to contact with the specific virus or serum and which contains the Spirochaetae Pallida. The condition becomes painful for the lesion exposes nerve endings and involves the capillaries and glandular network, and soon there is a breakdown of tissue, with an over supply of serum due to the irritation of the nerve endings. The capillaries take up this infection and new lesions result, until in time the spirochaetae make their way into the spinal cord and brain, and in the vascular system the diseased conditions may cause marked changes and affect the motor and sensory function of the entire central nervous system.

In the case of gonorrhea, which also is due to contact with a specific serum, the gonococcus when deposited on mucous membranes is readily absorbed but unlike syphilis seems to possess a marked affinity for the glands rather than for the vascular or nervous systems. It affects the organs of procreation through an intense inflammation. The physical effects of the two diseases are decidedly different but both impair the general powers and affect relations toward society, for the infected individual can communicate his disease to others and may transmit its terrible effects to his progeny. He may know this may happen but his moral power is weakened, the sex impulses surge beyond the power of inhibition and then the blood taint is passed on to wreck innocent lives.

When syphilis changes from the local form and gets into the circulation, and when gonorrhea gets into the chronic form there may occur a temporary improvement in feeling. In the case of syphilis functional disturbances then begin, there are changes in the walls of the blood vessels, the kidneys may be affected or acute inflammation of the lining membrane of the heart occur. The individual gradually loses ambition. Strength is not up to its former mark, interest is felt no longer in the great problems of spiritual or moral import, and because of disease and loss of morale the victim of syphilis becomes a social menace. Then follows the period in which the final breakdown of the nervous system is completed, the brain and spinal cord are affected and the mind can hold out no longer. Paresis develops and then the State provides for victim's closing years.

The physical changes to the individual following gonorrheal infection have been already discussed but the mental changes which the individual undergoes in the acute stage may be described as being in a less degree similar to those of the victim of syphilis. Economic efficiency is not impaired for work in the office or for other endeavors to earn a living, but there has been an offense against the State by an impairment of power which may ultimately prevent the fulfillment of an obligation to pass on life to a new generation. This is especially true when the infection is passed on to woman for in her it causes an inflammation of different degrees of intensity, but always likely to end in sterility or require an abdominal operation with its resultant organic loss. In the case of woman there seems to be no doubt in the minds of physicians that 45% of childless marriages are due to gonorrhea and 80% of all cases of early blindness in children is due to it.

Human Destiny.

One of the most important findings of the "Royal Commission on Venereal Diseases" is that there is an absolute necessity imposed upon the public to prevent the spread of disease, so that the coming generations may not be unfitted to cope with the problems of human destiny. The greatest purpose of successive generations is to pass on unimpaired the life and conquests of humanity. Individuals may dream of fame and cherish personal ambitions but Nature is concerned more in the future of the race than in the immediate welfare of any individual, and the experience of the ages must enable each generation to adjust itself to environment.

Wisdom is after all experience utilized beneficially, and the progress of the race is dependent upon the ability of each age to appropriate for its own benefit the wisdom which has been acquired by the generations which preceded it. Humanity is a marching army which maintains an average of uniformity although it has many who are lifted above their fellows by genius and ability for command. But there are few supermen for Nature's law is that each generation must average and in the end only such survive as conform to this law.

Each individual is placed on this earth for a special purpose which can only be attained through continuous physical and mental development whereby consciously or unconsciously the mental and social attitude of the individual changes. In this constant readjustment each life seeks or should seek its highest possibility in which education controls the social environment the individual enters at birth—an environment which may be later modified as ambition, energy and experience enlarges ideals.

The Individual and Posterity.

The first duty of humanity therefore is race preservation and however much we may solace our souls by looking backward to what has been accomplished, we serve the race best by looking forward and making possible a capable, efficient and healthy next generation. Although in a marked degree the individual is self-centred, Nature intervenes for the preservation of the race and compels constant sacrifice by the individual in order that humanity as a whole may be strengthened for its destiny. Even the noblest emotions, those which lift the individual to the highest spiritual plane, are manifestations of Nature's purpose. Thus love, which shapes destiny, is developed that the race may not perish, for the primal law compels the most potent expression of love to be manifested in behalf of children, and to them are returned in full measure the anxiety, tenderness and care which the parents received. Fathers and mothers are forsaken and new homes set up only that a new generation may inherit the earth. Hence we face toward the future where possibilities are and eagerly await the new generation which shall usher in a greater glory, although we know there was power in the ages behind us. Possessed and controlled by race love, we face the coming years with extended arms and a purpose to bestow upon those who shall succeed us all the protection possible in preparation for life's mission.

If this philosophy of humanity is true it leads to the inevitable conclusion that each individual should do all in his power to forward human progress. As all environmental influences which act upon the individual and the community should be conducive to health, happiness and progress, whatever makes for defect, disease and inefficiency should be eliminated in order that the individual and the race may function perfectly.

If the race is to preserve itself, the individual must subordinate impulses, desires and ambitions to conserve racial progress which at best is slow. We may think it rapid, but Nature moves reluctantly in making race changes. This is shown by the fact that in so far as physical perfection is concerned we have made little, if any, advancement since ancient times. Even our endowment of mental power does not surpass that of the thinkers of the past who paved the way for modern achievement for it is the general diffusion of knowledge which makes our age remarkable, the control we have of forces unknown in former times. To judge by such changes the flame of life burns but little more brightly than it has heretofore and unless we do our proper part for its protection we shall pass it on no brighter than we received it.

Protect the Germ Plasm.

It is for this reason that the germ plasm on which the future of the race depends must be protected by the individual and the sinister forces which would impair its potency be destroyed. Love may overlook and conceal defect but it cannot cure impaired germ plasm nor prevent the transmission of the defect it carries. Hence, the necessity that defect and diseases which act upon the sources of life be eliminated.

We must recognize the heritability of certain diseases and realize the fact that the deteriorative action upon the germ plasm of the toxins of such a disease as syphilis is direct, and that it is traceable through the child back to the parents, for it is certain that every syphilitic infant must have had a syphilitic mother, and although the father possibly may not have been infected, doubtless he was, as almost all syphilitic wives are either infected by their husbands or infect them. Here is the law of reaction and here too is evidenced the truth of the Scripture that—

> The sins of the fathers are visited upon
> The children unto the third and fourth generations.

The Moral Responsibility of the Physician.

The United States is now a world power—a leader of the forces of civilization—but its continuance as such will depend upon success in the prevention of the social plagues which attack the sources of national strength—the blood and morals of the people. As posterity is seriously threatened by defect and disease the future must be safe-guarded by their control. Hence general education is necessary if victory over these twin evils is to be assured, and in this the physician should be a leader. You ask what can he do? How can he check the devastation of venereal diseases? Many ways will suggest themselves as experience ripens into wisdom, and among others:

1. The acquirement of an extensive knowledge of human nature through observation and reading; he then can recognize

the causes of immorality, and use that knowledge in warning against social evils and licentious life.

2. As there are many members of the medical profession who are unfamiliar with all the manifestations of the venereal diseases and not conversant with modern methods of diagnosis and treatment, they should make special study of them, and the laws in relation to report of cases be complied with strictly.

3. The adoption of ideals of individual and community duty which will lead to a stand for personal and civic purity, and the exclusion of the immoral from social favor.

4. The advocacy of the custodial segregation of all dangerous persons until the period of possible transmission of venereal disease has ended and by the insistence upon an adequate restraint of the mentally defective of all types that they may not propagate defect.

5. The physician should foster public interest in scientific knowledge and social needs. This can be done by public lectures, illustrations, and statistical information for the benefit of parents and adolescents.

6. Finally, he should be an example both in public and private, in word and deed, knowing that vile language and an attitude of toleration toward impurity may encourage the ignorant to an unclean life. Hence, as an exemplar of social progress the physician should illustrate practically the ideals of life; and as guardian of racial health, a protector of those who are to be born, he should endeavor to let science shine into darkened lives that they may be redeemed from bondage to defect and disease.

VITAL STATISTICS AND CO-OPERATION WITH STATISTICAL OFFICERS.

An Address delivered before the Students of the Albany Medical College on April 13, 1917.

By WILLIAM H. GUILFOY, M. D.,

Director of Bureau of Records, Department of Health, New York City.

The subject on which I am to speak has been described as the bookkeeping of the lives of the nation and it has been likened to a lighthouse sending forth its beams and showing the health officer in what direction he should steer his vessel. Dr. Wilbur used to compare vital statistics to Cinderella, describing her as sitting by the fireside sifting the dusty ashes of figures, while her two sisters—bacteriology and preventative medicine—went to the ball and had a good time.

There are two basic elements in vital statistics—one the population and the other the records of deaths and illness, because vital statistics are not only concerned with mortality returns but they are also concerned with morbidity returns, the returns of illness, and incidentally with the returns of births and of marriages. How do we get our population? As you all know, the United States Census takes a population every ten years, and has been doing so since the year 1791. The taking of the census of the population goes back in history as far as the early Egyptians. The Romans, in addition to taking censuses also kept account of the deaths and births that took place within their provinces.

The main feature of the census as taken in those early days was to try and ascertain the fighting strength of the people, and of course in recent years in Continental Europe that has been one of the great requisites in the taking of the census, to discover the number of males at fighting ages. The necessity of frequent censuses has been brought home to us at the present time in our efforts to get together a sufficient fighting force.

The second basic element—the records of illness and the records of death—is obtained by the registration of the certificates of death or the registration of notifications of disease at Municipal, State and indirectly Federal seats of government.

The procedure here in New York State is that the physician furnish the family or the undertaker with a certificate of death within thirty-six hours.

Among the data required are the sex, the age, the civil condition, the birth place of the individual, his occupation, birth places of his parents, and the cause of death, with the idea of coupling up this data with the data as furnished to the census enumerators at the time of visit to each house. The enumerators at the time of the last census collected twenty-one items, the principal ones of which were, the name, sex, age, color, civil condition, birth place, occupation, birth places of the parents, and other data, such as being a civil war veteran, illiteracy, etc.

One of the requisites, I think, of the Health Officer is to understand what is meant by a death rate, and how to calculate one. We have occasion to prepare weekly death rates, monthly death rates, quarterly death rates and yearly death rates. How do we do it? Probably a good many of you are not familiar with the way in which we do it.

Supposing we have a city like New York with 5,500,000 people as a population, and we had last week approximately 1,800 deaths; the sum would be to find out the weekly death rate, to estimate the weekly death rate. Now a weekly death rate means a death rate that would prevail provided the same number of deaths continued weekly throughout the year; the sum would be to multiply the number of deaths, 1,800, by the number of weeks in a year, divide by the population and you have the rate. I think every one interested in health work should be able to do that sum.

Now we say, generally, there are 52 weeks in the year. We are a little more exact than that. We use 52.17747 weeks and multiply your number of deaths in a week by this factor and divide by the population.

The death rate is often spoken of as so many per thousand. The death rate last week was 17.08 per 1,000 of the population. The yearly death rate last year was 13.89 per 1,000 of the population which means that almost fourteen people died out of every 1,000 of the population during the year 1916.

In order to get a monthly death rate, as there are twelve months in the year, multiply the number of deaths that you have in the month by twelve, divide by the number of thousands in your population. In some books it is stated multiply the number of deaths that you have monthly by the number of months in a year, and then by 1,000 and then divide by your population. I think it is much easier to do it, first, by dividing your population off into thousands, and the sum will be then to multiply your number of deaths in a month by the number of months in a year, and then divide by the number of thousands in a population.

If you have the month of February with twenty-eight days in it, it isn't fair to compare the mortality occurring in it with that of the month of October with thirty-one days in it. In order to be exact, we do not multiply it by twelve, we multiply by a number dependent upon the number of days in a month. So if you had the month of February, in which there are twenty-eight days (365.2427 days in a year) your multiplier would be the figure resulting from dividing twenty-eight into 365 and its decimal part.

The quarterly death rate is obtained in a similar manner by multiplying the number of deaths in a quarter by the number of quarters in a year.

To estimate the yearly death rate, simply divide the number of deaths by the number of thousands in your population.

So that the calculation of a death rate is not an extremely hard proposition for any one who knows how to do multiplication and division.

It is the general crude death rate of which I am speaking, and it means the death rate which is obtained by taking all your deaths, irrespective of the ages at which the deaths occur.

I want to warn you about comparing the crude death rate of a community with that of another community unless there is a proper revision made with regard to the sex, age, etc.

The death rate in the City of New York last year was approximately 14 per 1,000. Some of our Western cities have a death rate of 9, 10, 11 or 12 per 1,000. Some of our Western cities have gone ahead with their desire to brag a little and point to the fact that the death rate of 10 per 1,000 last year when compared with the death rate in New York City of 14 per 1,000 shows just how much more salubrious and healthy they are than the city of New York.

The difference is that an ordinary crude death rate is made up of the deaths of all the ages from one minute up to one hundred years. Of course, if the age groupings of a population are favorable to a low death rate, you will have a low death rate there irrespective of sanitary condition or environment. In the Western cities where they have an influx of people at the ages of 20 to 45 years, at which ages the death rate is exceedingly low, you will of necessity, have an extremely low death rate for that city, although it might be one of the most unclean cities in the country.

The death rate of children under one year of age is approximately 100 out of every 1,000; the next age group from one to five years of age at which approximately 28 out of every 1,000 die; the next group from 5 to 15 at which the mortality is about 4 per 1,000, and the next age group, say from 15 to 25 or thereabouts at which the mortality is about 5 per 1,000; and then go on up the scale, and you have got to go past 45 years of age before you get a death rate that will approximate 14 per 1,000. You can readily see that where you have a population at an age anywhere above ten years up to 45, you will generally have a very low death rate in that city.

I had occasion quite recently at a meeting of the Directors of the Bureaus to call attention to the death rates of the different boroughs. The death rate of the Borough of Richmond was away above the death rates of the other boroughs. Now Richmond is a salubrious place to live in. Why is it that it had such a high death rate last year as 17 per 1,000? The death rate in Manhattan was 13.60; Brooklyn was a shade over 14.04; Queens was 15.14, and Bronx 13.33.

If you take the age grouping of the Borough of Richmond, and make proper provision for that age grouping, you will find that the death rate for the Borough of Richmond was brought down nearly two points. In other words, the two point increase in the death rate in the Borough of Richmond was due to an unfavorable age grouping of the population. In Queens, the rate was lowered to 13.60 by revision for age grouping. In both these boroughs, as compared with the other boroughs, there is a higher percentage of persons living over the age of 65 years, at which ages the death rate is very high. Even when the rate was corrected for age grouping, Richmond still showed a rate above the other boroughs. There are certain other corrections that can be made in addition to making the correction for the unfavorable age distribution of the population. Thus, corrections can be made for the presence of institutions. In the Borough of Richmond are two institutions which are fed chiefly from outside the city of New York. One is Sailors' Snug Harbor, in which the inmates come chiefly from up New England; some, I suppose, from Jersey or thereabouts,—people who do not belong to the city of New York, but whose deaths must be included because they take place within the city limits. We can make correction for this factor for the Borough of Richmond by excluding the deaths of non-residents and the population in the institutions, provided we include deaths of residents of Richmond that take place in institutions outside of the borough. The presence of the Marine Hospital whose inmates come from U. S. merchant and naval vessels and which is managed by the Public Health Service, tends to increase the death rate of Richmond. The exclusion of deaths in the hospital and in Sailors' Snug Harbor from the mortality returns in the Borough of Richmond gave that Borough a death rate lower than that of the other Boroughs of the city with the exception of the Borough of The Bronx.

I am talking to you in this strain in order to try to prevent you from falling into the common error of measuring the salubrity of one city with that of another by the ordinary, crude death rate. Before such comparison should be made there should be proper correction made for the age distribution, and also for the presence of institutions. Sex distribution is an important factor in exceptional instances, because at all ages the mortality among the females is decidedly lower than that among the males.

What we used to call years ago the infant mortality was the mortality of children under five years of age, but within recent years the term infant mortality has been seized upon by the advocates of Child Hygiene as representing the mortality of children under one year of age. The mortality of either one of those is really a much better way of comparing the sanitary conditions of one city with another than by using the crude rate.

I want to impress upon you the necessity in using an infant death rate based upon every 1,000 births that take place in the city. This has been done for a great many years over in Continental Europe and Great Britain. Instead of basing it upon the number of children living at that age, it is based upon the number of births that take place during the year.

In the City of New York last year we had reported 137,644 births and 12,818 deaths under one year of age, what is the rate? Divide the number of deaths by the number of thousands in the number of births reported and you get your infant mortality rate. The infant mortality rate is the rate based upon every 1,000 births in the community, and it is obtained by dividing the number of thousands in the number of births reported into the number of deaths under one year of age.

It is sometimes necessary in order to get figures that are grasped by the ordinary lay mind not to base your rate upon every thousand of the population but to base it on 10.000 or 100.000 or 1,000,000 of the population.

For instance, if you had a population of a city like New York with 5,000,000 plus, and you had 300 deaths from typhoid fever reported during the entire year, you would have to express the typhoid death rate in decimals, if based upon a thousand of the population. This is very easily remedied by, instead of dividing your population into thousands, divide it into tens, hundreds or thousands of thousands.

Now another thing that a Health Officer ought to know something about is how to estimate his population for the postcensal years; sometimes it is necessary to estimate it for the years between the census. Supposing we take the City of Baltimore, Md., for instance, the population in 1900 was 500,000; when the population was enumerated in 1910, it was found that it increased to 560,000. What was the population in 1911. The number of years between the 1900 and 1910 census are ten. The increase in the population 60,000 in ten years or 6,000 in one year. Now if the population in 1910 was 560,000, the estimated population in 1911 would be 566,000 and in 1912 it would be 6,000 additional and so on. This is called the arithmetical method of estimating the population. It is the method that has been used by the Bureau of Census at Washington and used by a great many cities for a number of years. There is another method which is called the geometrical method. The arithmetical method is similar to a sum in simple interest; the geometrical method is similar to a sum in compound interest. The City of New York used the geometrical method for a great many years, for over 30 years, because it was found that in a city situated like New York not only with its natural increase—that is the excess of the births over the deaths—but also with the constant influx of immigrants from the other side and of persons from all over this country who seek Dame Fortune in this city, the increase was of a compound nature; the results as checked off by each census return as it would come along at the end of ten years, would show that the geometrical method of estimating the population was much nearer the truth than the arithmetical method. Of course these estimates of the population are more or less open to criticism, but the estimates are the best that can be done in any city, except in those where there is a supervision made of every one who comes into or goes out of a city.

In a city like New York where there is no register of the population kept, some means must be taken in order to estimate the population, and the means taken is to estimate the population based on the assumption that the increase that took place between the two last censuses will increase in that same ratio until the next census. It is the best assumption that can be made.

So that with your population and with your deaths you have the means of estimating your death rates.

Now, a few words as to the birth rates.

A birth rate is calculated just the same as a death rate, no difference whatsoever. Where you are estimating the weekly birth rate, or a monthly or a quarterly or a yearly, the procedure is just the same as the death rate, calculated in the same manner, but there is this difference that in the estimating of a birth rate we have certain refinements, so to speak, which are more exact than the ordinary crude method of determining the birth rate. It is much more accurate to estimate a birth rate on the number of women living between child-bearing ages, 15 to 45 say. That is a much better way of comparing the birth rate of one community with another, because you can readily understand that if you compare the crude birth rate of a populace city like New York with the birth rate of a large mining town out West, in which there are comparatively few females living at the ages of 15 to 45, the comparison would be worthless.

The Census authorities will always provide you with those figures for the Census year, and it is very easy to estimate the number of women living at ages 15 to 45 during the postcensal years.

A still further refinement in the calculation of a birth rate is by estimating the number of legitimate births per 1,000 married women living at 15 to 45, and the number of illegitimate births per 1,000 unmarried women living at 15 to 45.

In New York City here the last refinement we do not use, because the figures are very small as compared with some of the foreign countries. So that for ordinary purposes the estimate of the birth rate of the City of New York is based upon the total number of births recorded per 1,000 women between 15 and 45.

I always say something in talking about births and discussing the registration of births and that is the uses to which the registration of births is put. One, the scientific one of basing the number of deaths under one year of age upon every 1,000 births, and the other the commercial one. It is really surprising to what extent the commercial use of birth certificates has gone.

The number of searches made last year in the City of New York approximated 190,000. The greater portion of these searches were of the birth records for entrance into school, for obtaining employment certificates, for use in our courts in cases of rape—as there is no better evidence as to the age of a female than the borth record, for use in the probation of wills. One of the recent uses to which birth records have been put has been the obtaining of passports.

In delivering a lecture on this subject I at its conclusion appeal to you to give the public health officials your best support, and the most effective way to do this is to obey the laws as to the filing of certificates of birth and death and the reports of infectious diseases. It has come to my attention that the Public Health Law has been amended recently so that civil actions may be begun against physicians who fail to observe the laws bearing on the registration of births, deaths and infectious diseases. Consider well before you incur the penalty provided for failure to obey the law.

Correspondence

SOME PERSONAL INCIDENTS.

By T. D. CROTHERS, M. D.,

Hartford, Ct.

In a letter from Dr. Brantwaite who is division surgeon on the British lines in Flanders, he relates an incident which I think will be interesting to many readers.

It seems that a Red Cross unit of Americans was working at one point on the line when an emergency occurred in a receiving hospital back from the trenches. There were no surgeons to attend to the sudden influx of wounded. A Red Cross surgeon was sent over to the hospital. He proved to be so efficient that work which had formerly required two or more men was done in a very few hours. The surgeon was greatly pleased and asked the Red Cross doctor to remain. In a day or so another rush of wounded men was handled with the same despatch and cleverness and sent to the rear in less time than that of an adjacent hospital. Then came a complaint from some subordinate officers that the Yankee surgeon was doing things differently from what they had been accustomed; that he was using all sorts of knives and neglecting a great many things they had been accustomed to use. The regular service is hedged in with very exact duties concerning details of operations, bandaging and preparing for transportation to the rear and any violation of these rules is looked upon with disfavor by the ordinary Briton. Soon an occasion occurred and the surgeon went over to observe for himself. He writes that he was astonished at the skill, swiftness and genius of this Yankee surgeon. He performed operations almost instantly, using anything that was available. He directed the dressings in an equally adept manner. He made diagnosis quickly and seemed to operate at once without question. There was something in his manner that carried conviction and while the attendants carried out his instructions, somehow it was very different from their custom. The surgeon realized at once that it was work a little better than they had been accustomed to do. Where there had been hesitation and details before an operation, these were avoided, the work was done and the patient taken off and replaced by another. The clerks were driven to their utmost to make the proper records. The Yankee surgeon was brief in his directions and never replied to a remonstrance, but seemed to go right on independently. The surgeon was curious to know where he came from and a thing he remembered most was, that he was a graduate of the Albany Medical College and lived from some inland town far from the seacoast. He soon went back to the Red Cross service, but the surgeon wrote, "If I could put him into the regular service he would be invaluable." And he said, "I want to keep track of that man for he is going to be a great surgeon in the future."

I have written Dr. Brantwaite, the surgeon, to find out who this man was, for he certainly deserves a recognition.

Along this line another incident will be interesting, especially to the older graduates of the A. M. C. The story is related by Dr. Smith, who died a few years ago in Albany and this was confirmed by Dr. March's own statement, before the class in 1865.

Dr. Alden March was a man of commanding presence, with a piercing black eye, heavy eye-brows and a smooth shaven face, with a quick nervous manner that attracted attention.

Somewhere about 1863 or 1864 after some of the great battles of the wilderness, a request was sent out to many of the leading surgeons of the country, to come to Washington and give their services to the wounded, which had accumulated in great numbers. Dr. March went down, taking with him Mr. Smith, then a student, who subsequently was a physician of some prominence in Albany and very soon he was set to work,—operating in the Army Square Hospital. The doctor was a very original man, bordering on a genius when it came to operations. He was a law to himself, acting independently according to the circumstances. He would say, "This is the way others have done it, but I guess I'll do it this way," (which often times was quite different). With the students in the old city hospital he would stop and explain the reasons for his change of technique. The second day after operating in Washington was marked by the appearance of an army surgeon, who held a high rank and was supervising the work done. He was a Troy man and had heard Dr. March's lectures and knew him very well. For some reason unexplainable he criticized the doctor as not doing the work according to custom or rule. The doctor replied with a flashing eye that he made the rules and that he was better able to judge than anybody what should be done. This surgeon complained to a medical authority higher up, that Dr. March of Albany was performing operations along ancient lines and far from the modern teachings. In thinking the matter over Dr. March became very angry and he went over to headquarters and announced that he was going home. He said among other things, that he didn't want to be irritated by the criticism of men who didn't know anything. The surgeon chief told him to go back and go to work and that no one should dictate to him and that he was authority and they would recognize it. The doctor consented.

It so happened that a number of very important operations had to be performed after dark and the Troy surgeon, either designedly or by accident, neglected to provide other than two or three small kerosene lamps. The doctor seemingly assumed that this was a slight on him to complicate his work and he ordered the lamps thrown out and he ordered the attendants to buy some candles and put them around. Afterwards the doctor said in the classroom, that he showed the authorities down there, that a surgeon could operate by a tallow candle, if he knew his business and didn't require a foul smelling lamp with the danger of explosion.

The incident evidently closed here and the doctor received a very warm letter of thanks from medical authorities. Years after the surgeon was in practice in Troy and never failed to refer to Dr. March as antiquated and behind the times. Of course such criticisms were sure to reach Dr. March although he never talked back or criticized him, he showed great interest to treat cases from Troy and persons who had been under this surgeon's care. The army surgeon realized later that he had antagonized a very dangerous man who would come up to Troy and perform an operation either with or without remuneration and made no reference to him whatever.

Years afterwards this surgeon's son was severely injured in a railroad accident and Dr. March was appealed to to help him.

In all probability they met and the case required some consultation which covered some little time. Finally recovery followed and the army surgeon sent Dr. March a check with profuse thanks. This the doctor returned, with a simple statement, that as an antiquated surgeon, he would never accept fees from one who had doubted his ability in the past.

This throws a side light on a character who taught surgery in Albany, built up the medical college and was himself, a commanding figure, far above the average.

In 1866 I saw Dr. Alden March and Gen. Winfield Scott on a Hudson river steamer. The resemblance between the two men was very striking. Dr. March was a bigger and kindlier man, but both had the same keen black eye, shaggy eye-brows and positive dogmatic air—not offensive but simply commanding and impressive. Both were really great men in their day.

Editorial

Besides bathing in the rivers, lakes, tanks and fountains, they used a bath which is still to be seen in many Indian villages, and which they call the temezcalli. It is made of unbaked bricks; its form is that of a baker's oven, about eight feet wide and six high; the pavement rather convex, and lower than the surface of the soil. A person can enter this bath only on his knees. Opposite the entry is a stone or brick stove, its opening towards the exterior of the bath, with a hole to let out the smoke. Before the bath is prepared, the floor inside is covered with a mat, on which is placed a jar of water, some herbs and leaves of corn. The stove is then heated until the stones which unite it with the bath become red hot. When the bather enters the entry is closed, and the only opening left is a hole at the top of the vault, which, when the smoke of the oven has passed through, is also shut. They then pour water upon the red-hot stones, from which a thick vapour arises, which fills the temezcalli. The bather then throws himself on the mat, and drawing down the straw with the herbs and maize, wets them in the

> tepid water of the jar and if he has any pain, applies them to the part affected. This having produced perspiration, the door is opened and the well-baked patient comes out and dresses. For fevers, for bad colds, for the bite of a poisonous animal, this is said to be a certain cure; also for acute rheumatism.
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> LIFE IN MEXICO. *Madame Calderon De La Barca.*

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"A Soldier-Doctor."

The surgical and medical records of the War of the Rebellion bears ample testimony to the activities of graduates of the Albany Medical College. Twenty classes only had graduated before the outbreak of the war, and the young physicians responded with enthusiasm to the call of patriotism and of duty. In the memorabilia of the Alumni Association are presented the personal achievements, and the individual service on the field and in the army hospital, history creditable alike to its makers and to their *Alma Mater*. Two only of our graduates chose army service as the sphere of professional activity: Colonel John Van Rensselaer Hoff, retired, now in Washington; and the late Colonel James P. Kimball. Dr. Hoff graduated with the class of 1871 and has since risen through the grades of promotion, having made an enviable record in the Spanish-American War. Dr. Kimball was the only alumnus of the college entering the volunteer service to accept a permanent commission in the army. He was anxious, as a young man, to obtain the experience, and hastened his undergraduate work to that end. He was mustered out in July, 1865, and began general medical practice at Pompey, N. Y. This proved distasteful, and in 1867 he received his commission as assistant surgeon with rank of first lieutenant. He then entered upon a career of great activity and usefulness.

Under the title, "A Soldier-Doctor of our Army,"* Mrs. Maria Brace Kimball has presented a touching outline of the character and experiences of her lamented husband, which will be received

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**A Soldier-Doctor of our Army*: *James P. Kimball,* late Colonel and Assistant Surgeon-General, U. S. Army. By MARIA BRACE KIMBALL. With an introduction by Major-General WILLIAM C. GORGAS, Surgeon-General, U. S. Army. And with illustrations. Boston and New York: Houghton Mifflin Company. The Riverside Press, Cambridge, 1917.

with gratitude by the friends who still recall the pleasant companionship, and by others who may find here an unusual description of the West and Southwest of the United States during these few years of struggle with the aborigines in their endeavor to withstand the final decree of civilization.

Dr. Kimball was detailed to Fort Buford, Dakota, in 1867, for which destination, after an experience with freshets on the Missouri river, the young surgeon engaged upon a stage journey of one hundred miles. " The windings of the Missouri presented every variety of scenery: the bleak and barren Black Hills and Big Horn Mountains—known then only to the Indians —the dry sagebush-covered plains and occasional rich river bottoms * * * glimpses of savage Indians along the shores, of antelopes and herds of buffalo on the hills." Fort Buford was a wooden stockade, enclosing adobe structures, possessing a corral for cattle which was the "envy of the hungry and thievish Indians, and kept the garrison under arms." In spite of the raids and skirmishes, Dr. Kimball was touched with pity for the foes who had deteriorated under the influence of " rum, gin, brandy and the other comforts of life" introduced by the "benevolent inhabitants of the East." War parties hovered about and Sitting Bull announced the impending destruction of Fort Buford "from the face of the earth."

Truly picturesque are the descriptions of the terrain and narrative of experiences in this wild region given in Dr. Kimball's correspondence and Mrs. Kimball's sympathetic comment, opening again a living record of this romantic period of our country's history. In the less rigorous climate of Arizona Dr. Kimball spent the years from 1870 to 1873, taking part in the Yellowstone Expedition under General Custer to survey the route of the Northern Pacific Railroad and to select sites for new army posts. In a furious attack by the Sioux Dr. Kimball improvised a stretcher for the transportation of wounded from the field, and this was probably the origin of the litter which, with the aid of Frederic Remington he perfected later during the Spanish-American War. Dr. Kimball described in the ANNALS of June, 1898, this device which established the principle upon which the more complicated field ambulances of the present day are constructed. "Add to this litter on wheels a motor and a canvas top, and you have the field ambulance used to-day upon all battle fields of Europe."

Later, in 1875 and 1876, Dr. Kimball was again associated with General Custer in expeditions in Dakota, and escaped the massacre at Big Horn only by the chance of delay caused by a great blizzard. Otherwise he would have shared the fate of his two assistant surgeons who accompanied General Custer into that fatal ambuscade of Sitting Bull. He was one of the rescuing party who drove the Utes from the "Thornburgh Massacre" in Colorado, in 1879, and afterward described that wild ride over plains and hills, and the care of the wounded "at the expense of the nap which I had promised myself while reeling in the saddle from sleep." Dr. Kimball's service in the West included also stations in Nebraska, Texas and New Mexico, with expeditions which carried him over this vast tract of country before its cultivation, and keen are his comments upon the primitive peoples and their customs and characteristics — conditions which have disappeared with unprecedented rapidity, and remain now only as an incident in the marvellous march of civilization.

Of his service in the East, at West Point and Governors Island, there is little that is new, but much of interest to readers not acquainted with the activities of these nuclei of military administration. Mrs. Kimball's tribute is worthy of the man of the fine sensibilities and high character recognized by his friends. In the words of Surgeon-General Gorgas, "it is a human document worthy of record and remembrance."

Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

ABSTRACTS OF VITAL STATISTICS, JULY, 1917.

COMPILED BY WILLIAM F. FULLGRAFF, REGISTRAR.

Deaths.

Consumption	17
Typhoid Fever	1
Scarlet Fever	0

Measles	3
Whooping cough	1
Diptheria and croup	0
Grippe	0
Diarrheal diseases	11
Pneumonia	8
Broncho pneumonia	1
Bright's Disease	6
Apoplexy	13
Cancer	10
Accidents and violence	11
Deaths under one year	27
Deaths over seventy years	30
Death rate	16.91
Death rate less non-residents	14.66

Deaths in Institutions.

	Non-res.	Res.
Albany Hospital	11	16
Albany Hospital Camp	2	6
Homeopathic Hospital	4	3
St. Peter's Hospital	1	7
Albany County Penitentiary	1	0
Albany County Hospital	2	2
Old Ladies Home	0	1
Hospital for Incurables	0	1
St. Margarets House	1	0
Home for the Aged	1	3
Maternity Hospital	0	5
Public Places	1	2
Totals	24	46
Births	195	
Still births	14	

BUREAU OF COMMUNICABLE DISEASES.

Cases Reported.

Typhoid fever	10
Scarlet fever	15
Diphtheria and croup	2
Chickenpox	8
Smallpox	0
Measles	68
German measles	20
Whooping-cough	19

Tuberculosis	12
Anterior poliomyelitis	1
Mumps	1
Septic sore throat	1
Total	157

Number of days quarantine for scarlet fever:

Longest	36	Shortest	30	Average	31 5/14

Number of days quarantine for diphtheria:

Longest	16	Shortest	16	Average	16

Fumigations:

Houses	35	Rooms	203

Milk bottles disinfected	149

Tuberculosis.

Living cases on record July 1, 1917		760
Cases reported:		
By card	25	
Dead cases by certificate	6	31
		791
Dead cases previously reported	11	
Dead cases not previously reported	6	17
Living cases on record August 1, 1917		774
Total tuberculosis death certificates		17
Non-resident deaths:		
Albany Hospital Camp	2	2
Resident deaths		15

Visits to Cases of Communicable Disease.

Tuberculosis	3
Miscellaneous	40
Visits to physicians	3

Bender Laboratory Report.

Diphtheria.

Initial positive	2
Initial negative	140
Release positive	2
Release negative	7
No growth	6
Total	157

Sputum for Tuberculosis.

Positive	35
Negative	66
Total	101

Widals.

Positive	7
Negative	30
Suspicious	3
Unsatisfactory	3
Total	43
Milk analyses	148
Pathological examinations	1
Bacteriological examinations	1

BUREAU OF NUISANCES.

Complaints made	84
Inspections	93
Plumbing	51
Sanitary	42
Reinspections	103
Plumbing	59
Sanitary	44

HEARINGS.

Cases heard before health officer	3

Class of Cases.

Drain	1
Ventilation	1
Hopper closet	1

Disposition of Cases.

Abated	2
Reinspection	1

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

Inspections	114
Old houses	44
New houses	70
Permits issued	70
Plumbing	55
Building	15
Plans submitted	20
Old buildings	7

New Buildings	13
Houses tested	28
Blue or red	9
Water test	19
Houses examined	30
Re-examined	112
Valid	17
Without cause	13

Dead Animal Report.

Horses removed	22
Dogs removed	146
Cats removed	414
Total	582

Bureau of Markets and Milk.

Public market inspections	24
Lactometer readings	140
Temperature readings	140
Fat tests	79
Sediment tests	35
Chemical tests	42
Bacterial counts	79
Stores inspected	62
Milk depots inspected	11
Cans inspected	815
Complaints investigated	2

Miscellaneous.

Cards posted for communicable disease	86
Cards removed	60
Notices served on schools	167
Notices served on stores and factories	49
Postal card returns sent to doctors	86
Postal card returns received from doctors	60
Inspections and reinspections	115
Employment certificates issued to children	65
Vaccinations	18
Cases assigned to health physicians	43
Calls made	74
Signs furnished to licensed plumbers	1
Garbage collected from first district (bbls.)	265
Garbage collected from second district (bbls.)	255
Garbage collected from third district (bbls.)	357

Medical News

MEDICAL RESERVE CORPS.—The Surgeon General's Office, at Washington, has appealed to the medical press of this country to aid in securing the necessary quota of physicians for the great army now in course of organization.

Major Noble states that the department must depend upon the medical press for assistance, and at the last meeting of the American Medical Editors' Association, held in New York, the following resolution was presented, and unanimously passed:

Whereas, The need of Medical Reserve Officers for both the Army and Navy is the paramount question of the day, therefore be it

Resolved, That (1) the members of this Association pledge themselves to publish prominently at least three times within the ensuing three months, a copy of the official personal application blank with an explanatory comment on the proper procedure to be employed in transmitting the same to the Surgeon General's office.

(2) That all medical journals of this country be urged to present editorially the needs of the military services in this crisis and the immediate necessity for securing the full complement of medical officers for the same.

(3) That this committee be continued in office after this meeting and be empowered to expend for carrying out the provisions of this resolution a sum not to exceed two hundred and fifty dollars.

(4) That a copy of these resolutions be forwarded to the Surgeon Generals of the Army and Navy and that the Association of American Medical Editors in convention assembled herewith pledges its hearty and unstinted support of all measures designed for the development of the medical forces in this hour of need.

SEALE HARRIS, M. D.,
Secretary Southern Medical Society;
Editor of the Southern Medical Journal.
T. L. STEDMAN, M. D., New York.
Editor of the Medical Record.
H. E. LEWIS, M. D., New York,
Editor American Medicine.
D. S. FAIRCHILD, Clinton, Iowa.
Editor Iowa State Journal Medicine.
G. W. KOSMAK, M. D., New York,
President American Medical Editors' Association; Co-Editor American Journal Obstetrics.
ROBERT M. GREEN, M. D., Boston,
Editor Boston Medical and Surgical Journal.

J. MacDonald, Jr., M. D.,
Secretary American Medical Editors' Association; Managing Editor American Journal of Surgery.

Much enthusiasm was manifested at this meeting, and great dependence is placed upon every medical journal in the United States to aid in the most effective manner possible.

The requirements for appointment in the Medical Reserve Corps are herewith presented, for the information of applicants:

Application for Appointment in the Medical Reserve Corps, U. S. Army.

.............................,
...................., 191 .

To the *Surgeon General*, U. S. Army,
Washington, D. C.

Sir:

I hereby make application to be examined for appointment in the Medical Reserve Corps, U. S. Army, and inclose testimonials as to my character and habits.*

I certify that to the best of my knowledge and belief I am laboring under no mental or physical infirmity or disability which can interfere with the efficient discharge of any duty which may be required of me if appointed in the Medical Reserve Corps, U. S. Army, and that the answers given to the interrogatories below are true and correct in every respect.

I furthermore state my willingness to proceed to such point for examination as may be designated by the Surgeon General, with the understanding that the journey entailed thereby must be made at my own expense.

Interrogatories.

1. What is your name in full (including your full middle name)?
2. What was the date of your birth?
3. Where were you born? (Give State and city or county; if foreign born, give country.)
4. When and where were you naturalized? (For applicants of alien birth only.)
5. Are you married or single?
6. Have you any minor children; if so, how many?
7. What is your height, in inches?
8. Your weight, in pounds?
9. Give the nature and dates of all serious sicknesses and injuries which you have suffered.

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*Testimonials as to character and habits from at least two reputable persons must accompany this application. Political recommendations are not necessary.

10. If either parent or brother or sister has died, state cause and age in each case.
11. Do you use intoxicating liquors or narcotics; if so, to what extent?
12. Have you found your health or habits to interfere with your success in civil life?
13. What academy, high school, college, or university have you attended? State periods of attendance from year to year, and whether you were graduated, giving date or dates of graduation.
14. Name any other educational advantages you have had, such as private tuition, foreign travel, etc.
15. Give all literary or scientific degrees you have taken; if any, names of institutions granting them, and dates.
16. With what ancient or modern languages or branches of science are you acquainted?
17. How many courses of lectures have you attended? Names of colleges and dates.
18. When and where were you graduated in medicine?
19. Have you been before a State examining board? If so, state when, where, and with what result.*

First. This application after being filled out, must be sworn to before a Notary Public.

Second. It must be accompanied by a County Clerk's certificate certifying to the fact that the applicant is a licensed practitioner.

Third. Two letters from citizens testifying to the character of the applicant must accompany the application.

20. Are you a member of any State medical society? If so, give its name.
21. Have you had service in a hospital? If so, state where and in what capacity, giving inclusive dates of each kind of service.
22. What clinical experience have you had in dispensary or private practice?
23. Have you paid particular attention to any specialty in medicine; if so, what branch?
24. What opportunities for instruction or practice in operative surgery have you had?
25. Have you previously been an applicant for entry into the United States service? If so, state when, where, and with what result (if rejected, state why).
26. Are you a member of the organized militia? If so, state with what organization and in what capacity.
27. Have you been in the military or naval service of the United States as cadet or otherwise? If so, give inclusive dates of service with each organization, designating it.

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*This application must be accompanied by a certificate from the proper official that the applicant is duly registered to practice medicine in the State in which he resides.

28. What occupation, if any, have you followed other than that of student or practitioner?
29. What is your present post-office address?
30. What is your permanent residence?
31. (Signature of applicant) ....
32. The correctness of all the statements made above was subscribed and sworn to by the applicant before me this .... day of ...., 191 .

....

....

As matter for editorial comment, here is the situation.

We must raise 20,000 physicians, and the members of the American Medical Editors' Association feel they are going to do their share.

At the present time there are less than 500 physicians in the regular Medical Army Corps, about 2,500 in the Medical Reserve Corps, and about 800 in the Militia, or a total of about 3,800 physicians when we must have 20,000.

Commissions are accorded in the Medical Reserve Corps on the basis of the First Lieutenant, Captain and Major, with respective pay of $2,000, $2,400 and $3,000 a year. No physician is commissioned lower than a First Lieutenant.

At this time of our great National crisis, will you aid the Surgeon General's Office in securing the number of physicians required? And please emphasize the fact that when these applications have been made out in accordance with the above instructions, they should be sent to the nearest Chairman of the Examining Boards, when appointment will be made for the applicant to appear for examination.

New York—Albany—Major Henry L. K. Shaw, M. R. C., 361 State street.

MEDICAL SERVICE OF THE ARMY AND NAVY.—Dr. ROBERT REID, JR. (A. M. C. '14), formerly an assistant physician at the Hudson River State Hospital at Poughkeepsie and also at the Riverdale Sanitarium, West Hill, New York City, has been appointed first lieutenant in the Medical Reserve Corps, and will probably be connected with the psychiatrical unit.

—Dr. EMANUEL M. FREUND (A. M. C. '16), has been commissioned first lieutenant in the Medical Reserve Corps, and has been ordered for training to Fort Benjamin Harrison, Indiana.

—Dr. ABRAHAM M. RABINER (A. M. C. '16), who has just completed a service as interne in the Albany Hospital, has been commissioned as first lieutenant in the Medical Reserve Corps.

—Dr. FRANK N. NEUENDORF (A. M. C. '11), has been commissioned as lieutenant in the Medical Reserve Corps and ordered for training to Fort Benjamin Harrison, Indiana. Dr. Neuendorf at the time of enlistment is president of the Medical Society of the County of Fulton and health officer of the City of Johnstown.

—Dr. Chester B. Van Gaasbeck (A. M. C. '17) and Dr. Burchard A. Winne (A. M. C. '17), have entered the medical service of the United States Navy.

Dr. Paul T. Harper, Clinical Profesor of Obstetrics, Albany Medical College, has received commission as first lieutenant in the Medical Reserve Corps of the United States Army.

Dr. Frederick W. Loughran (A. M. C. 90), present medical examiner for the State Industrial Commission, has been commissioned major in the Medical Reserve Corps of the United States Army.

Dr. William J. Wansboro (A. M. C. '95), of Albany, N. Y., has been commissioned as first lieutenant in the medical service of the United States Army.

Dr. John Giffen (A. M. C. '97), of Albany, N. Y., has been commissioned as first lieutenant in the medical service of the United States Army.

Dr. Clarence L. Sicard (A. M. C. '01), Poughkeepsie, N. Y., has been commissioned as first lieutenant in the medical service of the United States Army.

Dr. Michael J. Thornton (A. M . C. '01), formerly Assistant Superintendent of Bellevue Hospital, New York City, has been commissioned as captain and assistant surgeon in the Medical Corps of the United States Army.

Dr. George W. Papen, Jr. (A. M. C. '05), of Albany, N. Y., who has been in service with the Tenth Infantry, New York National Guard, with rank of captain, has been transferred to the Federal service.

Dr. Theobald F. Doescher (A. M. C. '06), of Albany, N. Y., has been commissioned lieutenant in the Medical Reserve Corps of the United States Army.

Dr. George W. Beebe (A. M. C. '07), of Johnstown, N. Y., has been commissioned as first lieutenant in the medical service of the United States Army.

Dr. Patrick J. Hirst (A. M. C. '10), of Ballston Spa, N. Y., has been commissioned as first lieutenant in the Medical Reserve Corps of the United States Army.

Dr. Charles E. Maxwell (A. M. C.' 11), has ben commissioned in the Medical Reserve Corps of the United States Army, and has relinquished his practice at Portlandville, N. Y.

Dr. Ira C. Whitehead, Jr. (A. M. C. '12), of Hoosick, N. Y., has received his commission as first lieutenant in the Medical Reserve Corps of the United States Army.

Dr. Garrett M. Clowe (A. M. C. '13), Schenectady, N. Y., has been commissioned as first lieutenant in the medical service of the United States Army.

Dr. Stephen H. Curtiss (A. M. C. '15), recently interne in the Samaritan Hospital of Troy, N. Y., has been accepted for service in the army, and assigned to military work in the laboratory of the Rockefeller Foundation.

Dr. Lawrence J. Early (A. M. C. '15), assistant on the staff of the Bender Hygienic Laboratory, has been commissioned lieutenant in the medical service of the United States Army and ordered for instruction to Fort Riley, Kansas.

Dr. John E. Heslin (A. M. C. '15), who has just completed service as interne in the Albany Hospital, has been commissioned lieutenant in the medical service of the United States Army, and has been ordered for instruction to Fort Riley, Kansas.

Dr. Harold A. Peck (A. M. C. '16), of Albany, N. Y., has been commissioned as first lieutenant in the medical service of the United States Army.

Dr. Abraham M. Rabiner (A. M. C. '16), who has just completed a service as interne in the Albany Hospital, has been commissioned as first lieutenant in the Medical Reserve Corps, and has been ordered for duty to the instruction camp at Fort Benjamin Harrison, Indiana.

Dr. Arthur W. Elting, director of the Albany Base Hospital Unit, has announced the following appointments to the service of this hospital unit:

Registrar, Worthington Palmer, Albany; surgical division, Dr. Charles G. McMullen, Schenectady; Dr. J. Lewi Donhauser, Dr. Willard J. Deno, Dr. Edwin L. Draper, Dr. John F. Southwell, Dr. William P. Howard, Dr. Elting, Albany; Dr. John L. Edwards, Hudson; medical division, Dr. L. Whittington Gorham, Dr. Clinton B. Hawn, Dr. Erastus Corning, Dr. Malcolm Douglas, Albany; Dr. Jonathan Pearson, Schenectady; laboratory division, Dr. Fred M. Meader of the State Health Department, Albany; Dr. R. G. Hussey and Dr. Schmeisser of Baltimore.

Personals.—Dr. San Crombie Po (A. M. C. '93), Bassein, Burma, has been recently appointed a member of the Lieutenant Governor's Council of that country. Dr. Po, who is a native of Burma, has achieved the highest position to which a native can be appointed. He has however held many places of honor prior to this.

—Dr. Stillman S. Ham (A. M. C. '02), has removed from 947 State to 153 Union St., Schenectady, N. Y.

—Dr. Albert S. Ferguson (A. M. C. '17), has begun practice at Portlandville, N. Y., and has taken the practice of Dr. Charles E. Maxwell who has enlisted in the medical service of the army.

Died.—Dr. Thomas H. Chambers (A. M. C. '55), died recently at his home in Georgiana, Fla.

—Dr. Louis C. B. Graveline (A. M. C. '62), died at his home in Nassau, N. Y., July 22, 1917, aged 80. Dr. Graveline was a veteran of the Civil War, for twenty years local surgeon of the Boston and Albany Railroad, and for five years physician of Columbia county. He resided in Albany for many years, was police surgeon for two years and was one of the founders of the Zouave Cadets.

In Memoriam

George W. Holding, M. D.

Dr. George W. Holding, of Breakabeen, N. Y., died at Troy, N. Y. July 27, 1917. Dr. Holding was born in Brooklyn, N. Y., in 1856. He received his preliminary education in Brooklyn and Saratoga. As a schoolboy, he and his brothers showed marked musical ability and they traveled over the entire United States as a musical organization. Although he always loved his music, he decided to take up medicine as his profession and matriculated in the Albany Medical College, and graduated in the Class of 1884.

After serving his interneship at the Chambers Street Hospital, New York City, he opened an office in Watervliet, N. Y., where he practiced for over twenty years, later removing to Breakabeen, N. Y.

He married Carrie E. Barrows of Saratoga, N. Y. and they had two children: a son, Paul E., and a daughter, Miss Carolyn Holding, of New York City, who alone survives them.

W. N. Fleetwood, M. D.

Dr. W. N. Fleetwood, a graduate of the Albany Medical College in the class of 1858, died at his home in Cochran, Fla., on May 4, 1917, aged 77 years.

Dr. Fleetwood was born on February 9, 1840, and thus it appeared he was only eighteen years of age when he received his diploma. For many years there has been no response from Dr. Fleetwood to inquiries from his Alma Mater, and his records have not been published in the decennial class histories. In response to an inquiry from the Annals Mrs. W. N. Fleetwood, Sr., widow, writes that Dr. Fleetwood remained in Albany after graduation with one of the professors, after going to Georgia, where he remained for a long time. Some disease, the nature of which is not given, resulted in his retirement from active practice for rest and recuperation. His health was restored, and he afterward engaged in business in a large and prosperous cotton warehouse, in which he was active from fifteen to eighteen years. Ill health again caused his retirement. He married twice and had three sons. He was a prominent Mason.

Current Medical Literature

NEW YORK STATE MEDICAL LIBRARY

Edited by Frances K. Ray.

The Medical Library is glad to announce that it will be open until ten o'clock every evening during the college year, beginning September 24, 1917. Credit for the appropriation which makes this possible is due largely to the efforts of certain members of the Advisory Council who have shown a helpful interest in many ways during the past year.

The annual report for the year 1916-1917 shows that 7,153 readers have used the room and over 3,300 volumes have been circulated outside the library. Two hundred and four new borrowers have been added to the list.

The library contains 21,810 bound volumes, with probably as many unbound periodicals and pamphlets which have not been counted. In common with all libraries we have suffered the complete loss of current German literature, though French and English magazines have been received with fair regularity.

Special effort has been made to co-operate in military preparedness not only by the acquisition of helpful books, but by the compilation of bibliographies on all related topics which have enabled the library to meet promptly many calls from men preparing for active service.

Students of the Albany Medical College have received instruction in the use of library tools from the Medical Librarian and the Director of the State Library has lectured to the senior class on the relation of libraries to public health.

Recent Accessions.

American therapeutic association. Proceedings. 1916.

Bayliss, W. M. Physiology of food and economy in diet. 1917.

Binnie, J. F. Manual of operative surgery. 7th ed. 1916.

Blumgarten, A. S. Materia medica for nurses. 2d ed. 1916.

Bucholz, C. H. Manual of therapeutic exercise and massage. 1917.

Buck, A. H. Growth of medicine from the earliest times to about 1800. 1917.

Cabot, R. C. Case histories in medicine. New ed. 1916.

—— ——. Diseases of metabolism and of blood. 1910.

Carnegie United Kingdom trust. Report on the physical welfare of mothers and children; England & Wales. 2v. 1917.

Carrel, A. & Dehelly, G. Le traitement des plaies infectèes. 1917.

Cash, C. Our slaughter-house system, a plea for reform.—1907.

Cole, N. B. First aid for boys. 1917.

Cushny, A. R. Secretion of the urine. 1917. (Monographs on physiology.)

de Normandie, R. L. Case histories in obstetrics. 2d ed. 1917.

Doty, A. H. Manual of instruction in the principles of first aid to the injured. 6th ed. 1916.

Dupuy, G. M. The stretcher bearer. 1915. (Oxford war primers.)

Egbert, Seneca. Hygiene and sanitation. 6th ed. 1916.

Falta, Wilhelm. Ductless glandular diseases: tr. by M. K. Meyers. 2d ed. 1916.

Fishberg, Maurice. Pulmonary tuberculosis. 1916.

Fischer, A. Vorlesungen über Bakterien. 2e. aufl. 1903.

Flint, Austin. Manual of physical diagnosis. 7th ed. rev. by H. C. Thacher. 1917.

Fones, A. C. Mouth hygiene. 1916

Freud, Sigmund. History of the psycho-analytic movement. 1917. (Nervous and mental disease monograph series, no. 25.)

Gardner, M. S. Public health nursing. 1916.

Gowers, W. R. Clinical lectures on diseases of the nervous system. 1895.

Green, C. M. Case histories in diseases of women. 1915.

Groves, E. W. H. Gunshot injuries of bones. 1915. (Oxford war primers.)

Haldane, J. S. Organism and environment as illustrated by the physiology of breathing. 1917. (Silliman memorial lectures, 1915.)

Harris, W. Nerve injuries and shock. 1915. (Oxford war primers.)

Hill and Eckman. Starvation treatment of diabetes. 3d ed. 1917.

Horder, T. Cerebrospinal fever. 1915. (Oxford war primers.)

Hughes, D. E. Practice of medicine. 11th ed. rev. by R. J. Scott. 1917.

Ikonographia dermatologica; ed by Neisser and Jacobi. pt. 1-7, 1906-14.

Lane-Claypon, J. E. Milk and its hygienic relations. 1916.

Lelean, P. S. Sanitation in war. 2d ed. 1917.

Lipschütz, Alexander. Stoffwechsel und Energiewechsel des Menschen. 1914.

McFarland, Joseph. Bacteria and protozoa. 8th ed. 1917.

Marks, A. M. Manual of artificial limbs. 1914.

Monographic medicine. 6v. 1916.

Moore, V. A. Pathology and differential diagnosis of infectious diseases of animals. 1916.

Murphy, J. K. Wounds of the thorax in war. 1915. (Oxford war primers.)

Musser & Kelly. Handbook of practical treatment. v. 4. 1917.

National council of public morals for Great and Greater Britain. The declining birth rate: its causes and effects. 1916.

Nonne, Max. Syphilis and the nervous system. 2d ed. 1916.

Osler, Sir William. Principles and practice of medicine; ed. by Thomas McCrae. 8th ed. 1917.

Pani, A. J. Hygiene in Mexico. 1917.

Parker, H. N. City milk Supply. 1917.

Peeso, F. A. Crown and bridge work. 1916.

Pharmaceutical society of Ireland. Calendar. 1916.
Phillips, W. C. Diseases of the ear, nose and throat. 3d ed. 1916.
Power, D'Arcy. Wounds in war. 1915. (Oxford war primers.)
Prentice, C. F. Ophthalmic lenses and prisms. 1917.
Prinzing, Friedrich. Epidemics resulting from wars. 1916.
Pyle, W. L. Manual of personal hygiene. 6th ed. 1916.
Ramsay, A. M. Injuries of the eyes. 1915. (Oxford war primers.)
Rawling, L. B. Surgery of the head. 1915. (Oxford war primers.)
Rollier, Auguste. La cure de soleil. 1915.
Squire, J. E. Medical hints for the use of medical officers. 1915. (Oxford war primers.)
Straub, P. F. Medical service in campaign. 2d ed. 1912.
Thomas and Ivy. Applied immunology. 2d ed. 1916.
Tibbles, William. Dietetics. 1914.
Toynbee, Gertrude, ed. Reminiscences and letters of Joseph and Arnold Toynbee. n.d.
Umber, F. Lehrbuch der Ernährung und der Stoffwechselkrankheiten. 1909.
U. S. Lighthouse service. Medical handbook. 1915.
Wethered, F. J. Medical microscopy. 1892.
Wadsworth, W. S. Post-mortem examinations. 1916.
Wood, R. C. Soldier's first aid. 1917.

The following new periodicals are received currently:

Abstracts of bateriology.
American journal of syphilis.
Annals of medical history.
Bulletin of University of Maryland school of medicine.
Journal of urology.
Maryland psychiatric quarterly.
Medicine and surgery.
Mental hygiene.
Society of the New York hospital. General bulletin.
Tropical diseases bulletin.
Veterinary review.

Military Medicine

MILITARY INSTRUCTION AND THE "ALBANY IDEA."

(*Continued from July* ANNALS, *p.* 350.)

The admirable work done by the Chemical Club in Albany in military preparedness has been demonstrated by an important pamphlet recently issued. As the scheme is of such far-reaching value, it has been thought wise to reprint it in the ANNALS so that it may receive a larger circulation than the privately distributed pamphlet, and may also have permanent record.

The following named physicians are the members of the Clinical Club who have accomplished this large task: Dr. ARTHUR J. BEDELL, Dr. FREDERICK C. CONWAY, Dr. ERASTUS CORNING, Dr. JOSEPH A. COX, Dr. MALCOLM DOUGLAS, Dr. EUGENE E. HINMAN, Dr. ELLIS KELLERT, Dr. JOSEPH A. LANAHAN, Dr. JOSEPH P. O'BRIEN, Dr. DANIEL V. O'LEARY, Dr. JAMES F. ROONEY, Dr. HARRY RULISON, Dr. JAMES N. VANDER VEER.

CLOTHING.

1. Amounts carried in stock by local dealers.
2. Sources of supply (names and adresses and when possible the capacity of firms or factories from which supply is drawn).

Shirts, trousers, socks, shoes, coats, hats, underwear, pajamas, night shirts, belts, suspenders.

HOUSING.

Churches are not included in the survey, first, because their spires may draw artillery fire, and secondly, because being pew-filled their floor space is small.

Buildings are classified as follows:

Schools—Public, private, collegiate buildings.
Halls—Theatre, Assembly, Dance, 1st or 2nd floor, elevators.
Clubs—Including fraternities having buildings.
Warehouses—
Mercantile Establishment—Singly or in groups.
Factories—(Movable machinery).
Public Buildings—Federal, State, County, City, except Post Office, Military.
Semi-Public—Charitable, Correctional, Religious.

Inquiry has been made with reference to:

Location:

Lines of railway and other transportation.
Distance from general receiving stations.
Buildings in vicinity for similar purposes.
Open space adjacent or in vicinity.

Physical Properties:

Material of construction, brick, wood, cement, tile, strain limit.
Dimensions—Over all, each floor, each room.
Floor space, absolute, available, maximum, minimum for special needs.

Hygiene:

Ventilation—Method, means, adequate. Improvements possible.
Heating—Method, means, sufficient. Improvements possible.
Lighting—Method, means, proper. Improvements possible.
Fire protection—Exits, doors, towers, walls, sprinklers.
Sanitation—Toilets, wash-rooms, rest-rooms, bath-rooms, lunch-rooms.

Facilities:

Elevators—Passenger, freight, dimensions, location, power, capacity, remodeling.
Availability—Changes necessary, machinery.
Consolidation—*i. c.,* one place serve need of many (asylum).
Opportunity—How quickly available.
Records—Maps, plans, schematic or to scale, photos, elevation and perspective. The list has been compiled from City directory, telephone directory, insurance lists, personal inspection, any other available sources.

For all factories in New York State constructed or improved since 1914, plans are filed in the office of the State Industrial Commission. For all buildings under construction since plans are filed in the office of the city Superintendent of Buildings.

Floor plans (typical and schematic) of all factories of more than one-story in height, with description of physical properties, fire protection, hygiene, and occupancy are on file in office of State Industrial Commission. Information with reference to public buildings is obtained from the Commissioner of Public Safety and the Superintendent of Buildings. Information with reference to Catholic Institutions is obtained from the clerical Superintendent of Schools and Charities. Information with reference to other religious institutions is obtained from the various clergy in charge.

Personal inspection should be made of the buildings listed, and notes taken.

Insurance plans of all buildings are on file in all large insurance companies offices.

An outline for determining the availability of serums, toxins and vaccines in a given municipality and facilities for laboratory work.

1. Laboratories where the above materials are manufactured:
   Names and addresses and locations and officers.
   A—State Laboratory; B—City or county Laboratory; C—Private laboratories: Character of buildings and surroundings.
2. Commercial houses where supplies are stored:
   A—Wholesale houses.
   B—Drug stores.
   C—Antitoxins and vaccines held by local health authorities.

D—Sources from which local supply is drawn. (Large biological laboratories.)

3. Supplies held by physicians.
4. Available bacteriologists, biologists and chemists.
5. Types of containers for biological laboratories.

Problem No. 4.

General Situation.

War has been in progress between the United States and a first-class foreign power for one year. Albany is being used as a base by armies operating toward the east and south. Large concentration camps have been located west and southwest of the city.

Special Situation.

Typhoid fever is prevalent in the concentration camps above-mentioned.

First Division Northern Army,
Special Order Blank date, 8 p. m.
No. —

(Grade) Medical Corps will proceed immediately on receipt of this order to the concentration camps located west of Albany, N. Y., and investigate and report in writing at the earliest possible time to the Chief Surgeon Division such recommendations regarding the sewage and refuse disposal, and general policing of these camps as may be necessary to prevent the further spread of typhoid fever now prevalent there.

By command of MAJOR-GENERAL X.
X. Y. Z.,
Liut.-Col., Adjt.-Gen.

(Grade)

First Division Northern Army,
Special Order Blank date, 8 p. m.
No. —

(Grade) Medical Corps will proceed immediately on receipt of this order to the concentration camps located west of Albany, N. Y., and investigate and report in writing at the earliest possible time to the Chief Surgeon Division such recommendations regarding the immunization against typhoid fever of all persons present in these camps as may be necessary to prevent the further spread of typhoid fever now prevalent there.

By command of MAJOR-GENERAL X.
X. Y. Z.,
(Grade) *Liut.-Col., Adjt.-Gen.*

First Division Northern Army,
Blank date, 8 p. m.

Special Order
No. —

(Grade) Medical Corps will proceed immediately on receipt of this order to the concentration camps located west of Albany, N. Y., and investigate and report in writing at the earliest possible time to the Chief Surgeon Division such recommendations regarding the water supply of these camps as may be necessary to prevent the further spread of typhoid fever now prevalent there.

By command of MAJOR-GENERAL X.
X. Y. Z.,
Liut.-Col., Adjt.-Gen.

(Grade)

First Division Northern Army,
Blank date, 8 p. m.

Special Order
No. —

(Grade) Medical Corps will proceed immediately on receipt of this order to the concentration camps located west of Albany, N. Y., and investigate and report in writing at the earliest possible time to the Chief Surgeon Division such recommendations regarding the food and milk and the elimination of flies in these camps as may be necessary to prevent the further spread of typhoid fever now prevalent there.

By command of MAJOR-GENERAL X.
X. Y. Z.,
Liut.-Col., Adjt.-Gen.

(Grade)

Problem No. 5.

General Situation.

War has been in progress between the United States and a foreign power for a year and a half. Part of eastern Massachusetts, the southern parts of Rhode Island and Connecticut and the lower portion of the Hudson Valley are in the hands of the enemy.

United States forces are strongly intrenched in positions north of Saratoga in New York State and in positions along the Berkshires and extending through Southern New England and the lower Hudson Valley. Albany, N. Y., is being used as a base for these armies.

(*To be continued*)

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HYGIENE AND GOOD CHEER.

An address delivered before the students of the Albany Medical College of Union University, at the Education Building, Albany, N. Y., on Wednesday, April 25, 1917.

By ALDEN CHESTER,
Justice of the Supreme Court of New York.

Young Men of the Medical College:

You have been favored in this course of lectures on public health and preventive medicine with addresses from many men of great scientific attainments in the specialties which they have brought to your attention. While I have not been able to give myself the pleasure of listening to any of them, I know from the subjects they have treated and the men who have spoken that the course has been of great value to students preparing themselves for the medical profession. After being surfeited, as I know you have been, with so much of scientific and technical value I have thought it would not be a half hour misspent if your minds should at this time be turned to something in a lighter vein but still I believe of considerable moment as related to your success or failure in the professional careers you are seeking to enter upon.

Let me therefore ask your indulgence while I speak of the hygienic value of good cheer, or of cheerfulness as an aid to hygiene. I might, following the example of my ministerial friends, go to the Scriptures for my text and remind you that in Proverbs it was declared by Solomon, a thousand years before the Christian era, that "a merry heart doeth good like a medicine but a broken spirit dryeth the bones." (Proverbs 17:22.)

A humorous paper recently mentioned a case where a physician—not however an Albanian I am glad to say—told a very sick patient after a careful examination that he would let him know in a week whether he was going to live or die. "But," said the patient, "What am I to do in the meantime?" The doctor replied "You must take a complete rest and above all don't worry about anything." This doctor in the advice which he gave had the idea which I desire to express, in what I have to say, but his promise to his patient made it somewhat doubtful if his advice, under the circumstances, could be very effectively followed.

The influence of "mind over matter" has been recognized as fundamental in many systems of healing. This is no doubt founded largely upon the miracles of the Scriptures and upon those supernatural powers of Christ in healing the sick. The great Roman Catholic Church to this day claims the possession of miraculous powers. This is exercised through the saints and the apostles. Many instances of this might be mentioned. Perhaps the most notable illustration of this fact on this continent may be found at the Basilica of St. Anne de Beaupré, on the St. Lawrence river twenty miles below Quebec. It has been my pleasure to visit this sacred shrine, not in search of healing, however, but because of its historic interest. Hundreds of thousands of tourists visit it annually, many of whom make pious pilgrimages there having full faith in the miraculous power of the good Saint Ann—the reputed mother of the Virgin Mary—to cure them of all their diseases. That this is effective in many cases is evidenced by the fact that on entering the church, one sees thousands of crutches, walking sticks and spectacles, besides wheel chairs and many surgical appliances which have been left there by these pilgrims who went away believing they were cured of their infirmities and that they would have no further use for these articles. Many of these devices are given to the flames annually to make room for others that are constantly coming and have been coming during the two centuries and a half since the founding of this venerable church.

Then there is the Christian Science cult, which has attracted so many adherents in recent years. One of its tenets is, that there is no such thing as disease and therefore medical help is scorned and " absent treatment " is extensively practiced *for a fee.* When any good results are achieved they must come, from my point of view, from the influence of the mind over the body and from no other cause.

The well known physician, Dr. Allen McLean Hamilton in speaking of this sect and of Mary Baker Eddy, its founder, in his recent work—" Recollections of an Alienist " (p. 317), says:

" Her teachings are merely a culmination, a crystallization, of similar systems that have been cropping up during the last half of the nineteenth century, under the leadership of such enthusiasts as Noyes, Cullis Simpson, Boardman, Quinby, and a score of others, who, influenced by a certain phase of idealistic philosophy, have denied the reality of matter and disease."

Dr. Hamilton further says, " The real usefulness of this sect is to heal by suggestion as has been done in all ages. At every European and Oriental shrine is a collection of votive offerings made by nervous invalids who have been made whole by psychic means. These things are mute witnesses of the power of the mind over the body. Perhaps some day the world generally will recognize the fact that a large number of so called organic and apparently incurable diseases are after all only functional." (Id. p. 319.)

It is interesting in this connection to note that in England in 1910 and 1911, a body of eminent members of the medical and of the clerical professions, made a careful investigation of this subject. They had many conferences and had the benefit of the testimony of many Christian Scientists, Emanuel Healers, Faith Curists and others who claimed to cure disease by spiritual agency. They had presented to them well attested evidence to show that " spiritual " or " mental " healing was useful in cases of alcoholism, sexual perversion and various other *functional* disorders. While they differed very much as to some phases of the subject and while they recognized the operation of the will and the efficacy of prayer, they were in substantial accord in expressing their belief " that the divine power is exercised in conformity with and through the operation of natural laws."

It was also their opinion that "faith" or "spiritual healing" does not differ from that dependent upon "suggestion;" that religious suggestion was more potent than any other kind; that "suggestion" was only available in functional disorders and that organic diseases were beyond its reach so far as a cure was to be expected, but they admitted that sometimes "suggestion would relieve pain or insomnia in organic cases."

So we have the judgment of these eminent physicians supported by that of many other distinguished and thoughtful men, that the mind may be made to exert a marked influence in curing the many functional disorders that flesh is heir to.

Cheerfulness which is one of the God given qualities of a well ordered mind must therefore have its place and an important place in correcting these disorders.

The physician is constantly in the presence of sickness and sorrow. He meets persons of all conditions of mind—the sad and the melancholy ones as well as those who are gladsome, bright and hopeful. He has many patients who are chronically out of sort. Neither he nor the patient can discern any organic trouble yet the patient easily imagines that he has all sorts of such troubles. If the physician tells him he has nothing the matter with him and to "cheer up" he will immediately suspect that his adviser is a failure at making a diagnosis and will at once dismiss him and try someone else.

I have heard of an instance of this kind where a woman who was the neighborhood gossiper, called in her physician who, after carefully observing her, was frank enough to tell her that there was nothing the matter with her—that all she needed was rest. She replied, "Oh! doctor I don't think you understand my case, just look at my tongue." He complied with the request and said, "Oh! that needs rest too." It is needless to add that his services to that patient were at an end.

Is it strange that with patients of this character to treat, so many physicians resort to giving *placebos* or bread pills? The patient is thus humored. No medicine would help him and when this fiction is resorted to he is being treated professionally if not ethically and this and time often works wonderful cures, as many doctors, when in a confidential mood, will readily admit.

Such a patient imagines he is ill but physically he is all right yet he is mentally sick, and the trained neurologist should be resorted to, to lift or educate him out of his mental condition. If he can get him in a cheerful mood and lead him to look on the bright side of his existence, without the aid of bread pills or other delusions, much will be gained. When a patient gets educated so he is more willing to pay his physician for advice than for medicine or what at least seems to be medicine, it will be just as well for the physician and in most cases much better for the patient. When a doctor is educated to diagnose a sluggish soul as readily as he does a sluggish liver and is prepared to furnish stimulants and cleansing to the one as well as to the other, much will be gained, for the patient at least.

With all the evidence we have to support the conclusion, it is not too much to say that cheerfulness in human kind has a salutary effect upon the system and is beneficial to health. Physicians as well as others generally recognize this. Laughter is one of the elements or at least one of the evidences of good cheer. Some unnamed poet or rather rhymster has truthfully said:

> "Laughter! 'tis the poor man's plaster,
> Covering up each sad disaster.
> Laughing, he forgets his troubles,
> Which, though real, seem but bubbles.
> Laughter! 'tis a seal of Nature.
> Laughter, whether loud or mute,
> Tells the human kind from brute.
> Laughter! 'tis hope's living voice,
> Bidding us make a choice,
> And to cull from thorny bowers,
> Leaving thorns and taking flowers."

An old time philosopher advises us to "Laugh and grow fat." A well known example of the efficacy of this advice is found in ex-President Taft who is one of the best laughers and one of the most cheerful and good natured of men in the country. He even has to be very strict in his diet to relieve his otherwise too great and too uncomfortable amount of avoirdupois, and he does this with great success.

An eminent physician in speaking of the physical benefits of laughter said many years ago: "There is not the remotest inlet of the minute blood vessels of the human body, that does not feel some wavelet from the convulsion occasioned by good hearty laughter. The blood circulates more readily at such times conveying a healthy invigoration to all the organs of the body, as it visits them on its particularly mystic journey. And thus it is that a good laugh tends to lengthen a man's life by conveying, as it does, a new and a distinct stimulus to the vital forces. On the other hand the habit of yielding to and fostering sadness of heart, embitters and shortens the days."

The statement that good cheer promotes good health has almost become axiomatic. It may be found asserted in one form or another by many writers.

Addison says: "Cheerfulness is the best promoter of health. Repinings and murmurings of the heart give imperceptible strokes to those delicate fibers of which the vital parts are composed, and wear out the machine. Cheerfulness is as friendly to the mind as to the body."

Lord Bacon says: "To be free-minded and cheerfully disposed at hours of meat and sleep and exercise is one of the best precepts of long lasting."

Shakespeare says: "A light heart lives long."

Sterne says: "I live in a constant endeavor to fence against the infirmities of ill health, and other evils of life, by mirth; being firmly persuaded that every time a man smiles, but much more when he laughs, he adds something to his fragment of life."

Haliburton says: "Cheerfulness is health; melancholy is disease."

Carlyle says: "Give us the man who sings at his work! Be his occupation what it may be, he is equal to any of those who follow the same pursuit in silent sullenness. He will do more in the same time—he will do it better—he will persevere longer. One is scarcely sensible of fatigue whilst he marches to music. . . . Wondrous is the strength of cheerfulness, altogether past calculation its powers of endurance."

Southey tells of a Spaniard who always put on his spectacles when about to eat cherries, that they might look bigger and more tempting. "In like manner," says Southey, "I make the most of my enjoyments; and though I do not cast my eyes away from my troubles, I pack them in as little compass as I can for myself, and never let them annoy others."

Charles Lamb said: "A laugh is worth a hundred groans any minute."

David Hume used to say that "a disposition to look upon the bright side of things was better than an income of five thousand pounds a year."

Bob Burdette used to lecture on "The good medicine of a merry heart."

Dr. Hall, quite eminent as a physician, wrote a valuable book of health maxims giving it the quaint title of "Fun Better Than Physic."

Peter Pindar (John Wolcot) in his expostulatory Odes, says:

> "Care to our coffin adds a nail, no doubt;
> And every grin, so merry, draws one out."

When questioned as to the secret of his marvelous youthfulness in his eightieth year Dr. Oliver Wendell Holmes—who lived to be eighty-five—replied that "it was due chiefly to a cheerful disposition and invariable contentment in every period of my life, with what I was . . . It is restlessness, . . . discontent and disquietude that makes us grow old prematurely by carving wrinkles in our faces. Wrinkles do not appear on faces that have constantly smiled. Smiling is the best possible massage. Contentment is the fountain of youth."

It was the same revered physician who facetiously said: "I firmly believe that if the whole *materia medica* could be sunk to the bottom of the sea, it would be all the better for mankind and all the worse for the sea."

And it was Dr. Osler who also believed that good cheer was a material aid to good health who said fifty years later "that he is the best doctor who best knows the worthlessness of drugs."

Our good friend, Dr. J. Montgomery Mosher, attending specialist in mental diseases in the Albany Hospital said in a recently published paper on "The Treatment of Mental Diseases in a General Hospital": "To ascribe the good results of treatment to the efficiency of the nurses may seem a trite comment; but the question of nursing is much more vital than that of buildings or of drugs."

General Nelson A. Miles in his recent book—" Serving the Republic," says: " that a wit was worth more to a company of soldiers than a doctor and a band of music more than a hospital."

Lincoln said: " I want it said of me when I die that I always plucked a thistle and planted a flower where I thought a flower would grow."

I might continue quotations along this line without limit from many other men, distinguished in literature and in professional and public life. They all tend to show that the philosophy of Solomon which I mentioned at the outset that " a merry heart doeth good like a medicine, but a broken spirit dryeth the bones " has found lodgment in the hearts of many generations and has not only become the settled conviction of every age since his time but is just as potent and valuable now as ever.

The man is to be congratulated who not only believes that cheerfulness is conducive to health and that melancholy is destructive of it, but who has the constitutional habit of always looking upon the bright side of things, no matter how dark the other side may be.

I have heard of an ignorant but honest man who had two sons, who from their infancy had been quarrelsome, profane and thievish. They had been repeatedly detected in petty crimes and had been imprisoned several times for short terms. They finally committed a burglary, were tried, convicted and sentenced to state's prison for five years. An old acquaintance called on the father to condole with him and to express his sympathy for the misfortune which had come to the boys. " Well," said the father after reflection, " I don't know but what they are about as well off where they are—there is one thing about it any way—when it comes night you know where them boys be."

Dr. Richmond, the president of Union University, once related to me an incident concerning his dear old Scotch father who lived much beyond the scriptural allotted time of three score years and ten, which showed that he had the quality of making the best of misfortunes. On one occasion when Dr. Richmond visited him he found him confined to the house suffering from a severe attack of the gout in both feet and unable to walk. He was sitting in a chair with each foot bandaged and resting on another chair and suffering intense agony—Dr. Richmond at once expressed his deepest and most affectionate sympathy. His father said in his rich and delightful Scotch brogue, "Oh, well, it micht a been wor." "I don't see how anything could possibly be much worse," said the doctor, "than to be disabled in both feet and unable to stir." "Well, I micht a had four feet," replied his father.

Perhaps the most prominent illustration of the power of mirth, to relieve from anxiety and care, is found in the case of President Lincoln during the Civil War. He had a keen sense of humor. He told many stories—not for the sake of telling them but always to illustrate an idea or to impress a truth and they were always witty, pithy and to the point. When he was borne down with the great burdens and responsibilities of the war, when his brow became furrowed with wrinkles and his eyes sunken with sadness he was still hopeful and his shining example taught all his countrymen to look on the bright side during the darkest hours of his country's calamity and peril. Repeatedly during those heart sickening years did he call to the attention of his cabinet, during their discussion of public questions, some of the latest things written by Artemas Ward or Petroleum V. Nasby, two of the best known humorists of that day. When taken to task for this disposition on the part of the president as being inconsistent with proper regard for the country's welfare in the hour of its sore trial he replied with great fervor: "You can not be more anxious than I am constantly; and I say to you now that if it were not for this occasional vent I should die."

As was said by Wayne Whipple in his Story Life of Lincoln: "This saving sense of humor was like daily dew to the drooping spirits of the careworn president, and its sustaining freshness must have had an inestimable influence in the final preservation of the union."

There is no profession or calling where cheerfulness is a better asset or more essential to success than in the one you are seeking to enter. While it is valuable to all men it is essentially so to the physician. If you do not possess it as a God given birthright; if it was not born in you, how are you to acquire it. It is undoubtedly true that many came into being under a weeping planet and that their melancholy may be traced to physical causes that existed long before they saw the light of day. It is equally true that there are other persons, "the favorites of fortune and the darlings of nature" who were born to be cheerful and whose bountiful and beneficent souls sparkle in their eyes and radiate through their smiles. How then are the melancholy ones to assist nature in working a transformation of their characters? How is the smileless man to become a good laugher; the melancholy man a cheerful one; the selfish man a sympathetic happy one and the fretful man with a chronic disposition to "the blues," so he will look upon the bright instead of the dark side of things?

It is easier to ask these questions than to answer them, and possibly the process may be one of slow development. The more permanent a thing is the longer time does it take for maturity. You can grow lettuce in six weeks but it will wither in six hours. The stately oak, however, requires fifty years to mature and thereafter its majestic branches will wave in the breeze for centuries. So in our lives, the best and most enduring things ripen slowly, but they are the grandest in their results and give us the widest range of happiness. No person can achieve this quality unless he desires it. If a person wills to rake the cobwebs of melancholy out of his heart and to brighten up, in nine cases out of ten he will succeed. If he would work a thorough reform in this respect he must be careful of the food he gives his mind and cautious in his associations with the gloomy and the sad. He should bear in mind that cheerfulness begets cheerfulness and that laughter is catching. The physician of all men should know this. When he goes into a sick room he should not go in as though he were going to a funeral; he should rather have a smile upon his face and good cheer in his heart, he should be gentle and sympathetic so that his very presence will bring hope and confidence to his patients. If they come to see him during office hours, he should be careful not to have his office opposite an undertaker's shop or near a church where funerals are frequent; he should have no skeletons or anatomical specimens or pictures of surgical operations in his waiting rooms but have them ornamented with those things only which are adapted to bring delight and sunshine to the hearts of those who are seeking his aid.

In this way—in his person and in his surroundings—he will do much to get his patients in a state of mind where good cheer and hopefulness will predominate and where these qualities—mind acting upon matter—will be of substantial aid to whatever else he may do for them, by medicine or treatment of whatever sort, in relieving them of their afflictions whether real or imaginary.

May I express the hope that all of us, if we do not now have them, will come to possess these good qualities as a part of our natures, not only for the benefit we will individually receive therefrom, but for the good cheer and pleasure we may impart to others by bringing brightness into their lives. It will be better for us, for our families, for our patients, if we are physicians, and for the world.

Good cheer is like the chicken pox or the measles in one respect at least. It is contagious. May it become epidemic and may each of us have our part in spreading the germ.

THE MENTAL NURSE.

An Address, given at the Graduation Exercises of the Butler Hospital Training School for Nurses, Providence, R. I., June 5, 1917.

By J. MONTGOMERY MOSHER, M. D.,
Attending Specialist in Mental Diseases, Albany Hospital, Albany, N. Y.

One hundred years ago an eminent divine, Dr. Samuel Miller, writing the life of Jonathan Edwards, acknowledged the debt of his generation to the achievements of persons " eminent for their talents, their intellectual culture and their pure and elevated virtue." Beyond the moral obligation of commemorating the worthies of the past, he found a present gain in cherishing the benefits they confer upon posterity, especially when " their eminence is of such a peculiar character as to present an example adapted not to dazzle, but to instruct, to guide and to emulate."

Dr. Miller further commented upon the difficulties in estimating at their true value the leaders of thought during the period of their activities, for every step in the progress of human interests has been promoted by some superior intelligence, with clear vision and definite aim, either far in advance of contemporaneous thought, or with penetration into the course of events.

This is true of the history of nursing. Its beginnings date from the pioneer work of Dorothea Lynde Dix and Florence Nightingale. Both were aroused by the casual observation of cruelties and abuses, and each responded to the call upon sympathy and charity, with vigor and singleness of purpose, to promote reforms, which in effect and permanence, have been said to complete the transition from savagery to civilization. It may be doubted that either realized the remote results of what must have seemed an effort to establish a code of simple decency in the care of the afflicted, and that, from the appeal to meet the ravages of disease with proper care, would arise the principles of prevention and treatment universally accepted to-day. Yet the experiment of a half century ago has become established custom, and the privileges and rights of the individual, upon which the whole justification of nursing rests, are regarded as of paramount concern by the State, and as vital to the safety of nations.

The lives of Miss Dix and Miss Nightingale remind us in what diverse ways purposes are attained. Natives of widely separated countries, born and reared in different spheres of life, one in hardship and privation, the other in luxury; unlike in temperament, Miss Dix austere, exacting; Miss Nightingale, gentle; there grew in each a strong sense of pity and justice. The characters of these two women and the circumstances which attracted their thought and aroused their energy should be studied by all who contemplate the practice of nursing, for every nurse may profit by the inspiration gained from knowledge of their "talents, their intellectual culture and their pure and elevated virtue."

Although their great purpose had its inception at the same time, Miss Dix was the elder. Her early years were regulated by puritanical sternness and she afterward said she "never knew childhood." Her mother's premature death left her the responsibility of the care, while yet a child, of two younger brothers.

She was lonely, self-repressed and always in poor health. Pulmonary symptoms were manifest when she was twenty-two years of age, but she seems to have been one of those unusual characters who conquer disease by force of will and by the inspiration and the success of self-imposed duty. The record is that of a determined, self-disciplined young woman, who accepted responsibilities, met them in her own way and yielded to intuitive impulses. The strongest element in her character, noted as early as character shows its form or strength, was sympathy for the sick and unfortunate.

The contrast between the environment of Miss Dix and that of Miss Nightingale, in the light of subsequent events, is extraordinary. Miss Nightingale was fostered in a beautiful rural English home, the refinements and traditions of which are not excelled in any other established social system. She was highly educated and was delicate in sensibilities and in tastes. At seventeen, when Miss Dix, in the austere New England house of her grandmother, sought relief for the pent-up energies of her repressed activities in teaching the children of the poor, Miss Nightingale was an accomplished and attractive young woman. But at this time, indifferent to the charms of a lively and refined society, she became interested in the destitute and unfortunate of the parish. She prepared and distributed comforts for the poor, and engaged in "study of sick nursing," probably in a desultory way, for there was no established practice or theory beyond the little known work of Pastor Fliedner of Kaiserswerth.

And then by accident occurred those strange contemporaneous events which were destined to revolutionize the care of the sick and to modify the statecraft of two continents.

On a Sunday afternoon in March, 1841, Miss Dix visited the Home of Correction in Boston to assist in divine service. Her attention was drawn to an insane person confined in a cell and inhumanly neglected. She was aroused in an instant. She inquired into the care of persons of this class, and then began the campaign of forty years which resulted in the founding or enlarging of more than thirty State institutions for the proper custody and treatment of the insane. She became an acknowledged power, and carried her work into European countries with equally beneficial effect. In his outline of her career Dr. Page says, "It is impossible to estimate how many men and women, suffering mental disease, she extricated or preserved from public jails and private pens, or how many others enjoyed release or exemption from galling chains and other cruel devices for restraint as a result of her humanitarian efforts." Her part in the foundation of the Butler Hospital illustrates her methods. Mr. Nicholas Brown had bequeathed thirty thousand dollars to establish the institution. Armed with the knowledge of many deplorable cases in Rhode Island, Miss Dix, with characteristic directness, placed the facts before Mr. Cyrus Butler, and obtained from him the additional gift of forty thousand dollars to ensure the erection of the buildings. Her name is thus indelibly written upon the records of this hospital as one of three to whom are to be ascribed the high purpose of science and service always characteristic of its administration.

At almost the same time that Miss Dix was aroused by the cruelty she observed in the jail in Boston, Miss Nightingale, by a curious coincidence, witnessed the deplorable condition of the hospitals of the cities of Great Britain. She saw the nursing "in the hands of the coarsest type of women, not only untrained, but callous in feeling and often grossly immoral. There was little to counteract their baneful influence, and the atmosphere of institutions which, as the abodes of the sick and dying, had special need of spiritual and elevating influences, was of a degrading character." She prepared herself by study at Kaiserswerth, and set about the correction of these appalling evils. Then followed the Crimean war, and, defying tradition, she provided respectable women for the care of sick and wounded soldiers. From this arose the calling of nursing as it is understood to-day.

Thus under widely varying conditions the same truth was brought into recognition by the keen perception and indomitable purpose of these two women. The demand of Miss Dix that the insane be properly treated is only to be met by the application of the principles of nursing established by Miss Nightingale.

From the standpoint of to-day, it appears incredible that a half-century of modern civilization has been needed to arouse compassion for suffering and a generation more to establish practical methods of relief. The line of demarcation between mental and physical affections is growing less distinct, and the unity of disease is an accepted fact, for all sickness disturbs both mind and body. Science establishes the more accurate groups of local and general, or constitutional, diseases. The former belong to the domain of surgery and are often relieved by the removal of offending structures; the latter are essentially medical, to be met and overcome by measures conserving the vitality of the patient. The patient with an infectious disease, acute or chronic, presents pronounced derangement of function: temperature, circulation, respiration, digestion, elimination,—each requires attention and care. These abnormal conditions are largely the indication of altered nervous action in which the mind participates. The so-called mental disease is merely an aggravation of one set of symptoms which preponderate and, because of obtrusiveness, demand special consideration. In either case the means of cure lies in the restoration of normal function, for which the application of intelligent, educated nursing is the most potent agent.

The outward and visible evidence given by the Butler Hospital has long been the sign of inward grace in the humane and liberal assumption of a great duty. The records of its training school from year to year reveal the evolution of this broad conception of the universal qualification needed by the nurse in every branch of service. It is personified in your Medical Superintendent, who has been faithful to the sacred obligation assumed by the physician when he accepts his diploma—the conservation of the individual. In other walks of life, where great numbers are under direction, as in the army and in the industries, human beings are moved in the mass; in a large hospital, efficiency is attained, not by general orders, but by the patient, judicious, often wearisome and tedious analysis and consideration of personal characteristics. Those who urge to-day the refinements of medical practice in a hospital for the insane are apt to forget and can hardly realize how difficult the road which has been traveled, and how great the obstacles which have been overcome in a few years. Within the memory of those not yet aged, the inmates were regarded as a collection of curiosities to be exhibited on certain afternoons of the week to a long procession of morbidly minded visitors; a thousand sick people were divided into a half dozen groups determined by behavior; active manifestations of turbulence, irrespective of their origin, were quieted by stupefying drugs; isolation from loved ones was regarded as an essential therapeutic measure, and submission to strangers was accepted as the criterion of a more or less healthy state of mind. Into such a mess as this Dr. Blumer injected the spirit of reform, accentuated by the vigor and enthusiasm of youth, and his thirty annual reports reveal the persistence and unwavering fidelity with which he has advanced his ideals toward the goal.

" Insanity is disease of the brain," was the thesis of his first public document. He then advocated, from year to year, the successive steps necessary to affirm this truth:

abolition of mechanical restraint, increased liberty, occupation, school for patients; privacy (as protection from public curiosity);
substitution of nurses for attendants, uniforms for nurses;
women nurses in men's wards;
adoption of general hospital methods, and abandonment of terms "asylum," "lunatic" and "insane;"
school for nurses, at first optional and then obligatory, with preference for graduates;
preliminary examinations for training school candidates;
laboratory and clinical investigation;
elaboration of clinical teaching, with fewer didactic lectures;
exchange of nurses with those of a general hospital.

These were significant of a new era. In 1900 Dr. Blumer expressed in his first report at Butler Hospital his purpose to "inculcate the virtue of respect for the patient as such," and the following years have witnessed the development of the school to its present high position. Many of his epigrams might well be taken to heart. He has emphasized "the supreme importance of the mental aspects of all professional nursing," and the need to "approximate, if not to identify, the curriculum and methods of the school to and with those of the schools of general hospitals, with the object of giving its pupils an all-round training." He has also urged "the desirability of placing the technical education of nurses upon a broader basis of general culture.'

Thus have the achievements of Miss Dix and Miss Nightingale, conceived in "talents, virtue and culture," taken their place in history, as the heralds of that great triumph of humanity which marks the transition from mere custody of the insane to scientific treatment of mental disease.

Scientific medicine is making great strides in the protection of health, particularly in specific medication as represented by antitoxins and vaccines, and in other means of prophylaxis, sought to be attained by popular education. But the number of sick people continues distressingly large, and the time is still far distant when universal knowledge as to the causes of disease will anticipate its appearance.

The layman, engrossed in business or profession requiring his whole energy is not able to gain special knowledge of the laws of correct living to which the physician devotes his life. He cannot consider and act intelligently upon the perplexities of public sanitation, heredity, exercise and rest, diet, over-application, worry, anxiety, and the multitude of problems which enter into the question of adjustment of personal resources and adaptation. Until the blessings of Utopia are vouchsafed there will be sickness and distress, and much of this will be found to have its origin in abuse of the nervous system, the most potent underlying factor in diseases even of concededly physical character. Outspoken delirium in pneumonia and typhoid fever, prolonged convalescence with mental depression following these and similar diseases, hysterical and confusional states following surgical operations, all suggest antecedent nervous strain and exhaustion. A most competent surgeon attributed an attack of appendicitis to worry!

The neglect of mental complications offers a serious problem to be charged none the less to the lack of training of physicians than to that of nurses. This defect in education must be supplied before the two intimately related callings may be said to have fulfilled their obligation to their patients. In this effort to meet the want the schools of general hospitals have been less energetic than those of hospitals for mental disease. There is little instruction in the origin of mental symptoms and therapeutic measures are confined to routine administration of a few drugs, sedative in character, occasionally and fortunately helpful in meeting a transient complication, but faulty in theory and actually harmful if persistently used. In contrast with this is the effort in mental hospitals to discover the underlying physical defect, in the expectation that the symptoms will disappear when the source is removed and normal function re-established.

This defect in the general hospital curriculum is assumed to be met by a mysterious quality called "tact," with which the nurse is supposed to be inherently charged, in varying proportions. Thus the most important qualification of the nurse, rapidity and accuracy of interpretation, is accepted as beyond the reach of education, and success or failure is predicated upon the possession of a natural gift, or want of it. In the ultimate analysis tact is knowledge of the mental manifestations of disease and of the personality of the patient, and these are discussed and elaborated in the training given in the mental hospital. The ready appreciation of what is right and proper at a given instant is not regarded there as intuition, but as definite knowledge which may be imparted by training and acquired by experience.

The most striking and practically universal feature of morbid nervous action is periodicity. Whatever the manifestation may be, from simple querulousness to active delirium, its intensity varies as the moments or hours pass. An attempt at management or the administration of treatment when the patient through fear or agitation cannot accept it, aggravates the symptoms and creates hostility not easily overcome. This is a mistake the mental nurse does not make. The averted glance, inattention, or more correctly, diverted attention, suggests at once the presence of hallucinations, often followed by some impulsive or dangerous act. The mental nurse recognizes the condition and anticipates the danger. Depression, or gloom, with occasional fragmentary remarks of self-abasement suggests to the mental nurse the possibility of attempts at suicide. Momentary periods of confusion and a dazed or bewildered state of mind in childbed lead the mental nurse to precautions against sudden danger to the mother or infant. States of depression following periods of excitement, as of delirium, of fever or of alcoholism, are well known to mental nurses as potentially developmental of sudden activities, which, when not prevented, terminate in casualties and death.

The pathological history of old age is scarred with the artefacts of fallible therapeusis. Longevity, the prize of right-living, is too often penalized by the want of comprehension of its conditions. Forgetfulness, and the fanciful restoration of the past, are misapprehended, and the aged, who surround themselves with the imaginary environment of remote existence, are driven to despair and desperation by misguided attempts to correct the erroneous conception of a mind which has lost its power of adaptation and adjustment. Attacks of maniacal excitement, delirium and confusion occurring in the aged, provoked by opposition and intrusion upon the established habits of a long life, may not only be relieved but prevented by the skill of the mental nurse, who has learned as none other the value of honesty, not only in the relief of delusions, but in the increase of comfort of one laboring under the stress of some great fear. Acquiescence in absurd and morbid beliefs not only lends support, but adds to the confusion of the sufferer, who is reassured by the simple statement that he is misled by the morbid action of the brain. The quiet remark of incredulity is often sufficient, and of all nurses, the mental nurse alone has knowledge of this simple truth.

Attendance upon a mental patient demands application of the same principles as upon any other case of disease. In the treatment of acute cases the general manipulations are to be applied to secure rest and comfort for the patient, and the elimination of poisons.

The general nurse gives diet, medicines and hydrotherapy, at the appointed time, so that regularity marks the day. The same method for restoring normal function should be the underlying effort in every acute mental case. The mental nurse varies the routine so far as expediency dictates and, mindful of the moods of the patient, ignores the clock and avoids antagonism and the ensuing exaggeration of symptoms. If judicious adaptation to the intervals between paroxysms be followed, satisfactory results ensue, and the end justifies the modified procedure. In this lies the distinction between a respectful recognition of the mental state of the patient, and a hard and fast rule of thumb which sees only disease and ignores personality. If this be tact, in the words of Patrick Henry, " Make the most of it! "

Mental training thus affords opportunity for a glimpse of the mind of the patient, and the mental nurse has received a practical gift not vouchsafed to others where experience has been confined to the material manifestations of disease. The mysteries of personality and character are rarely revealed; only when mental operations are distorted by disease is there gained a substantial view of the underlying purposes of action. It is possible then to place one's self in the position of the patient and to share or ease the miseries of uncontrolled ideas and fears. Of all the medical writers who have ventured into this obscure field that "brave old knight of Norwich," Dr. Thomas Browne, in the quaint phraseology of four centuries ago, expresses the ideals which may be taken as the gospel of the physician and of the nurse:

"It is a barbarous part of inhumanity to add unto any afflicted parties misery, or indeavour to multiply in any man a passion whose simple nature is already above his patience. This was the greatest affliction of Job, and those oblique expostulations of his Friends a deeper injury than the down-right blows of the Devil. It is not the tears of our own eyes only, but of our friends also, that do exhaust the current of our sorrows; which, falling into many streams, runs more peaceably, and is contented with a narrower channel. It is an act within the power of charity, to translate a passion out of one breast into another, and to divide a sorrow almost out of itself; for an affliction, like a dimension, may be so divided, as, if not indivisible, at least to become insensible. Now with my friend I desire not to share or participate, but to engross his sorrows; that, by making them my own, I may more easily discuss them; for in mine own reason, and within my self, I can command that which I cannot intreat without my self, and within the circle of another."

The great apostle of trained nursing in America, Dr. Edward Cowles, finds that mental nursing is the widest domain in that bodily ills are simply a "multiplicity of various forms of interference with the mental life, which unifies all experience." Your superintendent glorifies the "psychiatric attitude," in which the nurse establishes the "foundation of professional qualifications upon patience and the Christian graces." The nurse so trained ministers to the "human personality of the patient and to bodily ills as incidental to the larger interest and duty." This is the type of nurse with which the Butler Hospital blesses Providence.

Correspondence

THE PASSING OF A GREAT MAN—PROFESSOR DR. THEODORE KOCHER.

THE EMINENT SURGEON OF BERNE, SWITZERLAND.

On July 27th last the medical profession throughout the world suffered a great and irreparable loss in the death of Professor Dr. Theodore Kocher, the famous chief surgeon of the "Inselspital," Berne, Switzerland, and professor at the medical faculty of the Berne University—to which posts he received a call by the Government of the Canton of Berne in April, 1872.

Professor Kocher's many pupils have ever admired him as the greatest living surgeon and on two occasions has the medical world in general also paid him this compliment. First in the year 1904 when the International Surgical Society was founded, the meeting of Surgeon Delegates elected Professor Kocher Chairman of the first International Congress of Surgeons at Brussels. On the other occasion, in the year 1910, he was awarded the Noble Prize for his remarkable achievements in surgery.

His specialty was goitre and he has been generally known as an exceptionally successful surgeon for this complaint. This formerly most difficult operation has been improved and simplified by him and some of the foremost physicians are not reluctant to acknowledge that they are operating after Kocher's method.

The first successes brought him patients from all directions of the Globe and noble families, including the Imperial Russian Court, called him frequently to their aid. Numerous brilliant offers reached him from foreign countries, but he refused them all, in order to devote his science and activity to the University of his native town. In 1912 he celebrated the fortieth anniversary of his Professorship in midst an assembly of medical celebrities who had especially come to Berne to do him homage on that day.

On the occasion of the Surgical Congress of 1910, he surprised his audience—which consisted of over 1,200 surgeons from various parts of Europe—when he casually mentioned that he was basing his facts upon some 4,000 operations he had performed for goitre. And humanity is not only indebted to this talented man for the discoveries he made in this field, but also for the many lessons he drew from his experiences and observations in other and still more complicated diseases.

Everybody is acquainted with the phenomenal effects of Röntgen's invention in cases of broken bones. Professor Kocher's experience and science enabled him to write on the treatment of fractures even before Röntgen and there was nothing to be altered or added in his treatise of this subject. Professor Kocher's technic has led to perfect success in stomach and intestinal surgery; and new methods which he introduced are now employed in cases of epilepsy. He also facilitated the diagnosis of injuries to the brain and spine and intestinal ruptures are operated after his directions.

Professor Kocher is therefore universally acclaimed as a man to whom the world is indebted for discoveries and progress in almost every section of surgery. He was a man who was never precipitate in his diagnosis of a case; he knew the value of careful and repeated observation and insisted upon absolute certainty in each individual case.

It consequently rarely happened that a case of illness which was brought to his attention could not be explained and his patients felt immediately that they were in the care of a man from whom they would receive the maximum of human help.

Professor Kocher regarded his profession as his very life and his holidays were invariably devoted to theoretical work. He remained a perpetual wonder to his assistants and his pupils, who could not always realize how this man could find his life's satisfaction in constant hard work. He was not only an instructor in surgery, but he implanted into his students that sense of duty which sacrifices all to the cause of the patient. He refused in his clinic to distinguish between important and unimportant matters, for every detail held some importance for him and he never failed to impress this upon his pupils.

While many a man would have retired long ago, Professor Kocher remained active to the very last. At the age of 76, shortly before he died, he lectured and operated with youthful vigor and those who knew him had to admit that he displayed the same unbounding energy at the close of his career as he did when he started his work in the Swiss Capital. Professor Kocher kept not only pace with the progress of science and time, but he was even ahead.

Switzerland mourns him as one of her most brilliant sons and the medical profession in general and many individuals in foreign lands who have received help from this great surgeon will pay a grateful tribute to his memory.

Marie Widmer.

Editorial

> Of medicine too he was fond of talking, and with those of its practitioners whom he most esteemed,—with Corvisart at Paris, and with Antonomarchi at St. Helena. "Believe me," he said to the last, "we had better leave off all these remedies; life is a fortress which neither you nor I know anything about. Why throw obstacles in the way of its defense? Its own means are superior to all the apparatus of your laboratories. Corvisart candidly agreed with me that all your filthy mixtures are good for nothing. Medicine is a collection of uncertain prescriptions, the results of which, taken collectively, are more fatal than useful to mankind. Water, air and cleanliness are the chief articles in my pharmacopoeia."
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> *Napoleon; or, The Man of the World.* Emerson.

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"The Originator of the United States Pharmacopoeia."

Few of the workers in drugs who refer every day to the large technical volume which guides their manipulations have had their attention directed to the history and evolution of this extraordinary work. It is assumed that, like Topsy, it "just grew," as edition after edition noted advances and additions in the rapidly increasing number of remedies. And yet its origin was of the humblest, and it sprang from the perplexities of physicians of a century ago, who, practicing in isolated and widely separated communities, felt the need of interchange of thought and experience and adoption of some common standards of belief. A recently published biography not only describes the beginnings of the Pharmacopoeia but sheds a vivid side-light upon the methods and lives of pioneer physicians which approached the romantic.*

This atavistic tribute "happened to be written" in a peculiar way. The grandson came accidentally upon the papers of the grandfather, comprising many letters he had received and none he had written. From this one-sided accumulation of material he has been able to construct not only the personal characteristics of the hero of his story but to describe his contemporaries from the evidence given by their own hands, and to picture the struggles and the difficulties of a pioneer civilization. The therapeutic resources of the rural physician were largely those suggested by his fertile brain, and common agreement was reached only by communication in letters carried from town to town by accessible messengers.

"The important results of the attendance [of Dr. Spalding] at the Harvard Medical School were: the best of instruction; and personal acquaintance with the three Professors." It appears that he twice "hired a chaise into which he hitched his horse" to make the journey from Cornish to Boston. He assisted his preceptor, Dr. Nathan Smith, in Cornish, and "made a horseback journey of 300 miles in Vermont, looking for a place to settle in practice." Of the physicians he met he describes one as "a Poor Galenist," another as "a good physician, but too dirty for a surgeon," a third as "very capable, but too fond of the cup;" and of the last he wrote with enthusiasm: "There is a man for you! Careful and scientific. Would that I could know about him from meeting him oftener." This sketchy per-

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**Dr. Lyman Spalding, the Originator of the United States Pharmacopoeia;* Co-Laborer with Dr. Nathan Smith in the Founding of the Dartmouth Medical School and its First Chemical Lecture; President and Professor of Anatomy and Surgery of the College of Physicians and Surgeons of the Western District, at Fairfield, N. Y. By his Grandson, Dr. JAMES ALFRED SPALDING. Boston: W. M. Leonard, Publisher, 1916.

sonal tone of the book is revealed throughout in letters from famous men and comments. Among them are Jenner, Shattuck, Waterhouse, Gerrish, Nathan Noyes, David Ramsay and others who were interested in vaccination. Their difficulties in obtaining, importing, and conveying the virus are revealed and their faith was unlimited. Perhaps this interchange of the remedy and the epistolary comments upon its uses and effects may be assumed as the demonstration of the need of a publication accessible to all. After this method had been carried on for years Dr. Spalding's ambition led him to prepare "Bills of Mortality," for distribution, which pointed toward a general agreement on nosology. The large number of letters describing cases furnishes a veritable clinical symposium, and when Dr. Spalding proposed in New York on January 6, 1917, the preparation of a "National Pharmacopoeia," the suggestion was well received and a committee was appointed. The reasons advanced by Dr. Spalding were: "Physicians were using different books in compounding their drugs, the names of those drugs varied everywhere, some drugs were inert, others were compounded on foreign standards, different textbooks were used in different medical schools of instruction, doses were unlike in various parts of the nation; in a word National Uniformity was imperative." The first edition was printed in Boston, December 15, 1820, ten months before the death of its originator.

A note upon this Life of Dr. Spalding would be incomplete without some reference to the many quaint comments upon the customs of his day and the strong individualities of his associates; yet space forbids more than casual excerpts from the rich and varied accumulation. Dr. Spalding met Physick and Rush in the Pennsylvania Hospital and enjoyed their clinical demonstrations. The former announced: "I go next to speak of strangulated Hernia, in which a high enema of tobacco is better than mere tobacco smoke." "In tapping," he said, "you may get water and you may get jelly!" Rush naturally emphasized the mental aspects of every case, and was attention to the impressions made upon the minds of his patients as promoting recovery. Dr. Spalding wrote of him: "His great forte is to prove everything by a string of analogies like Sancho Panza's Proverbs. He never attempts fair and logical reasoning but supports his hypothesis with the idle talk of a Nurse, or of an Old Woman, or of a Sea Captain or of a Lady in Philadelphia, or of a Patient in the Hospital. Notwithstanding which, he is the ablest practitioner that I have ever met with, he so exactly points out the Seat and the State of the Disease, and attacks it with such Buonapartean Skill as to vanquish it at once."

Dr. Kollock, representing the South in the preparation of the Pharmacopoeia made the trite observation that " it is difficult to keep alive an efficient zeal in medical Associations except in the immediate vicinity of Medical Schools, which furnish continued excitement." This seems to be true to-day. It was so with Fairfield, the rural institution in Herkimer County which was almost a forerunner of the Albany Medical College. When Dr. Spalding was invited to a professorship there in 1810, he was told that " There is no respectable surgeon in Albany. Nor any celebrated physician." The invitation appears to have been pressed under the hope that Dr. Spalding would settle in Albany, and so promote his own convenience and that of the School. This did not meet with his acceptance, though no reason is given. Perhaps he anticipated the vagaries of medical friendship which were later expressed to him by Samuel L. Mitchill, when he contemplated removal to New York: "As to success in N. Y., there can be little doubt, that with patience and perseverance you will succeed. But I think you will find it tedious ' to beat your way,' as the sailors term it, against wind and tide. You will desire, of course, to figure in genteel circles, and to associate with the middle and higher classes of society. The families of these orders are, you know, pretty much bespoke already, and it is chiefly by a death, or removal, or a quarrel, that a new physician can gain admission, and knots of medical men are formed, who throw into each other's hands as much of the consultation business as they can." It would appear that customs have not changed, and that medical ethics are much the same now as a century ago. Yet there should have been opportunity in New York, for Dr. Spalding was asked to report on the condition of Beekman Street, for the sake of the public health, and he found: "Offal of fish and fowl, beef bones, barrels of shavings, potato peelings, decayed apples, corn cobs, crab and clam shells, chimney soot, pea pods, cellar rubbish, six loads of cow manure standing in the roadway for 24 hours, bricks, mortar, a dead hog, with a dead cat and hen lying alongside." Life may have been pleasanter there than at Fairfield, for when his honorarium is questioned, Dr. Spalding indignantly inquires: "What would you ask for one half of your dwelling house to become an Anatomical Theatre for three months, with 14 subjects to dissect and 20 students running in and out?"

These are a few extracts from this golden treasury of antique practice and theory.

Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

BUREAU OF VITAL STATISTICS.

COMPILED BY WILLIAM F. FULLGRAFF, REGISTRAR.

DEATHS FOR MONTH OF AUGUST, 1917.

Consumption	18	Broncho Pneumonia	0
Typhoid Fever	1	Bright's Disease	5
Scarlet Fever	0	Apoplexy	8
Measles	0	Cancer	4
Whooping Cough	0	Accidents and Violence	6
Diphtheria and Croup	0	Deaths under 1 year	19
Grippe	0	Deaths over 70 years	29
Diarrheal Diseases	15	Death rate	13.59
Pneumonia	2	Death rate less non-residents	11.45

Deaths in Institutions.

	Non Res.	Res.		Non Res.	Res.
Albany Hospital	9	6	Federation of Labor Camp.	1	0
Albany Hospital Camp	1	2	Public Places	1	1
Albany County Hospital	0	2	Infants Home	1	0
Homeopathic Hospital	3	8	St. Margarets House	1	0
St. Peters Hospital	2	7			
Home for the Aged	2	2			
Hospital for Incurables	2	1		23	36
Maternity Hospital	0	6	Births		188
Home for the Friendless	0	1	Still births		10

Bureau of Communicable Disease

Cases reported during August, 1917.

Typhoid Fever	8	Whooping-cough	5
Scarlet Fever	2	Tuberculosis	33
Diphtheria and Croup	0	Anterior Poliomyelitis	1
Chickenpox	1	Ophthalmia Neonatorum	1
Smallpox	0		
Measles	8	Total	59

Number of days quarantine for scarlet fever:
Longest...... 34 Shortest....... 30 Average....... 33 8/12
Fumigations: Houses ...... 39 Rooms...... 195
Milk bottles disinfected 246

Tuberculosis.

Nurses' Report.

Living cases on record August 1, 1917		774
Cases reported:		
By card	31	
Dead cases by certificate	3	34
Dead cases previously reported	15	
Dead cases not previously reported	3	
Died out of town	1	19
Living cases on record Sept. 1, 1917		789
Total tuberculosis death certificates		18

Non-resident deaths:

Albany Hospital Camp	1	St. Peters Hospital	1	
C. F. L. Pavilion	1	Homeopathic Hospital	1	
			4	4
		Resident deaths		14

Visits to Cases of Communicable Disease.

Tuberculosis	28	Visits to Physicians	5
Miscellaneous	28	Investigations	2

Bender Laboratory Report.

Diphtheria.

Initial Positive	0	No growth	2
Initial Negative	129		
Release Positive	38	Total	216
Release Negative	47		

Sputum for Tuberculosis.

Positive	38	Negative	47
		Total	85

Widals.

Positive	10	Suspicious	8
Negative	24	Unsatisfactory	1
		Total	43
Wasserman Tests	135	Milk Analyses	152

BUREAU OF NUISANCES.

Inspections	80	Sanitary	62
Plumbing	18		
Reinspections	84	Sanitary	53
Plumbing	31		

HEARINGS.

Cases heard before Health Officer	5

Class of Cases.

Manure	2	Drain	1
Stable	1	Privy vault	1

Disposition of Cases.

Abated	2	Reinspection	3

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

Inspections	108	Houses tested	11
Old Houses	49	Blue or red	1
New Houses	59	Peppermint	2
Permits issued	74	Water test	8
Plumbing	63	Houses examined	19
Building	11	Re-examined	93
Plans submitted	16	Valid	12
Old Buildings	7	Without cause	7
New Buildings	9		

DEAD ANIMAL REPORT.

Horses removed	22	Cats removed	456
Dogs removed	155		

Bureau of Markets and Milk.

Public Market inspections	13	Milk depots inspected	9
Lactometer readings	174	Milk houses inspected	36
Temperature readings	174	Milk cans inspected	906
Fat tests	86	Dairies inspected	36
Sediment tests	44	Cows examined	414
Chemical tests	37	Dairies quarantined	1
Bacterial counts	65	Complaints investigated	5
Stores inspected	58		

Miscellaneous.

Cards posted for contagious disease	10	Postal card returns received from doctors	33
Cards removed	34	Inspections and reinspections	28
Notices served on schools	59	Employment certificates issued to children	23
Notices served on stores and factories	21	Vaccinations	38
Postal card returns sent to doctors	10	Cases assigned to health physicians	65
		Calls made	100

Garbage collected from 1st District	400 bbls.
Garbage collected from 2nd District	396 bbls.
Garbage collected from 3rd District	505 bbls.

Medical News

Medical Service of the Army and Navy.—Dr. Harold A. Peck (A. M. C. '16), who has just completed service in the Albany Hospital, has been commissioned first lieutenant in the Medical Reserve Corps, and has been assigned to duty in the Military hospital in Washington, D. C.

—Dr. Henry B. Gillen (A. M. C. '09), of Cohoes, N. Y., has received his commission as captain in the Medical Reserve Corps of the army and has been assigned to duty at Fort Benjamin Harrison, Ind.

—Dr.Raoul A. Herbert (A. M. C. '15), of Cohoes, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been assigned to duty at Fort Benjamin Harrison, Ind.

—Dr. James H. Mitchell (A. M. C. '12), of Cohoes, N. Y., has received his commission as lieutenant in the Medical Reserve Corps.

—Dr. Howard A. Lomax (A. M. C. 1892), Captain in the Medical Reserve Corps, has been appointed chairman of the Medical Examining Board in Albany to take the place of Dr. J. Lewi Donhauser (A. M. C. '07), who has been ordered to Fortress Monroe.

—Dr. Clinton B. Hawn (A. M. C. '06) and Dr. Joseph P. O'Brien (A. M. C. '98), together with Dr. Edwin Draper, instructor in surgery in the Albany Medical College, commissioned as first lieutenants, have been ordered to Newport, R. I., for members of the National Guard.

—Dr. Milliard F. Shafer (A. M. C. '03), of Cobleskill, N. Y., has been commissioned as first lieutenant in the Medical Reserve Corps and ordered to Fort Benjamin Harrison, Ind.

—Dr. Hamilton M. Southworth (A. M. C. '05), of Old Chatham, N. Y., has received his commission as first lieutenant in the Medical Reserve Corps and has been ordered for duty to Fort Benjamin Harrison, Ind.

—Dr. George A. Green (A. M. C. '12), of Mechanicville, N. Y., has been commissioned as lieutenant in the Medical Reserve Corps and has been assigned for instruction to Fort Benjamin Harrison, Ind.

—Dr. George W. Beebe (A. M. C. '07) of Johnstown, N. Y., has been commissioned as first lieutenant, and has been assigned for instruction to Fort Benjamin Harrison, Ind.

—Dr. Garrett M. Clowe (A. M. C. '13), of Schenectady, N. Y., has been commissioned as first lieutenant in the Medical Reserve Corps, and has been assigned for instruction to Fort Benjamin Harrison, Ind.

—Dr. Waldron A. Stearns (A. M. C. 1900), of Schenectady, N. Y., has been commissioned as first lieutenant in the Medical Reserve Corps, and has been assigned for instruction to Fort Benjamin Harrison, Ind.

—Dr. William B. McKeon (A. M. C. '15), of Troy, N. Y., has been commissioned as first lieutenant in the Medical Reserve Corps, and has been assigned for instruction to Fort Benjamin Harrison, Ind.

—Dr. Robert E. Plunkett (A. M. C. '13), of Whitehall, N. Y., has been commissioned as first lieutenant in the Medical Reserve Corps, and has been assigned for instruction to Fort Benjamin Harrison, Ind.

—Dr. Erastus Corning (A. M. C. '07), has been commissioned as captain in the Medical Reserve Corps, and has been assigned to duty at Tacoma Park, D. C.

—Dr. Floyd J. Atwell (A. M. C. '07), of Cooperstown, N. Y., has received his commission as first lieutenant in the Medical Reserve Corps.

—Dr. Milton Arnowitz (A. M. C. '17), has enlisted as chief medical officer of the Second Battalion of the Provisional Regiment, and has left for headquarters at New Paltz, N. Y.

—Dr. Arthur M. Dickinson (A. M. C. '15), who has been commissioned as first lieutenant in the Medical Reserve Corps and since July 20th has been under instruction in the Army Medical School in Washington, has arrived in England on his way to active service in France.

—Dr. Ira C. Whitehead, Jr. (A. M. C. '12), of Hoosick Falls, N. Y., whose commission as first lieutenant has been announced in the Annals, has arrived in France.

—Dr. RAY M. EATON (A. M. C. '11), of North Adams, Mass., a lieutenant in the Medical Reserve Corps, has arrived in England on his way to France where he will take charge of an American field hospital. Dr. Eaton went to Europe soon after the outbreak of the war to serve for a year with the Allied armies in field service.

PERSONALS.—Dr. WALLACE J. C. AUBREY (A. M. C. '10), formerly in Albany, has removed to Cohoes, N. Y., where he has an office at 274 Remsen St.

—Dr. ROY L. LEAK (A. M. C. '98), formerly superintendent of the Psychopathic Institute in Syracuse and professor of medical jurisprudence in the medical department of Syracuse University, has been appointed as medical director of the State Hospital for the Insane, Columbia, S. C.

—Dr. CHARLES H. HERRICK (A. M. C. '93), has removed his office to 243 Hudson Ave., Albany, N. Y.

—Dr. HARRY A. VAN LOON (A. M. C. '10), has opened an office at 27 Dove St., Albany, N. Y.

—Dr. CLARENCE F. GRAHAM, instructor in medicine in the Albany Medical College, publishes a paper on the "Clinical Laboratory in the Albany Hospital," which is profusely illustrated, in the Modern Hospital of September, 1917. This paper gives a description of the new work in clinical pathology at the hospital.

—Dr. N. A. PASHAYAN (A. M. C. '01), of Schenectady, N. Y., contributed to the discussion on the subject of epilepsy before the Section of Nervous and Mental Diseases at the last session of the American Association, as reported in the *Journal* of September 15, 1917.

—Dr. HERMON C. GORDINIER (A. M. C. '86), contributes a paper on Digitalis in the Treatment of Auricular Fibrillation in the "Medical Record" of September 15, 1917.

—Dr. GEORGE C. VOGT (A. M. C. '17), recently interne in the Albany Hospital, has settled for practice in Endicott, N. Y.

MARRIED.—Dr. J. LEWI DONHAUSER (A. M. C. '07), in active service as captain in the Officers' Reserve Corps, and Miss Eliza Rathbun Paige were married in Albany, N. Y., on September 8, 1917.

DIED.—Dr. ROLLIN A. KIRKPATRICK (A. M. C. '1898), died in the Samaritan Hospital at Troy, N. Y., July 28, 1917, from cerebral hemorrhage, aged 58.

Current Medical Literature

PATHOLOGY AND BACTERIOLOGY.

Edited by Ellis Kellert, M. D.

Military Sanitation in the Present War. By THORNDIKE SAVILLE, C. E. *American Journal of Public Health,* Vol. VII, No. 6, p. 527.

The author mentions the following as the two best books on sanitation which have as yet appeared as a result of experience in the present war. "Sanitation in War" by Major Lelean of the British Medical Corps, and "La Pratique de l'Hygiene en Campagne" by Andre Tournade of the French Sanitary Service School. His article is an abstract of the two volumes.

The French lay great stress upon the comfort of the soldier providing hot and cold water in the encampments and a hair dresser. Before a camp is established there should be a sanitary survey conducted by a doctor, an estimatoin of the capacity of the place and its proivsions for receiving men and horses and there should be adequate protection of the ground. Temporary latrines should be provided while the regulation latrine ditches are being made. Stagnant pools of urine or wash water should be prevented. All refuse is best disposed of by treatment with quicklime. Stable refuse is carted to at least a distance of a kilometre. Surface drains should be among the first permanencies of any camp. All water is to be sterilized. This is accomplished by hypochlorite of lime or permanganate of potash. The latter is not favored by the British.

The disposal of the dead presents a serious problem. Burial should not take place near habitations, sanitary structures or water courses. Common graves holding 100 bodies are used and in digging the trench it is necessary to provide easy access of air and circulation of ground water. All clothing is removed from the bodies and antiseptics are forbidden. A single row of bodies are placed in a ditch which measures 100 feet long, 11 feet wide and 5 feet deep. When burial becomes impossible, quicklime, 10% ferric sulphate, 1-20 cresol or formalin is used. Incineration is the best method and the sentiment against it is to be regretted.

In the temporary outposts and even in the field hospitals whitewash is used abundantly. For screens, linen cloth stretched on wooden frames and then whitewashed, is used. The addition of one to two grams of alum per litre facilitates the adhesion of the whitewash.

The common diseases are typhoid, diarrhea, dysentery, trench jaundice, cholera, typhus, directly contagious diseases and the venereal diseases. Typhoid is better prevented by the French method of giving four injections instead of two as in the British army. Only men in good health are inoculated. The French give 0.5 centigram aspirin one or two hours after injection, while the English give 15 grains calcium lactate just before and six hours after inoculation. Diarrhea and dysentery are brought about by long stationing of large numbers of troops in the same place, too much meat, green vegetables, careless removal of flannel belt or lying on damp ground.

The Germans have used anticholera vaccination and the French are to adopt it in the infected regions.

Typhus which is prevalent in the German and Austrian armies is spread by the body louse. For its suppression it is necessary to disinfect cantonments abandoned by the enemy, sterilize clothing and provide shower baths. Kerosene, benzene or equal parts of kerosene and olive oil rubbed on head and washed off in 24 hours is efficacious. Powders of 2% iodoform and creosote and 96% naphthelene will remove lice from clothing. The young are destroyed by smearing seams with mineral oil, 9 parts, soft soap 5 parts to water 1 part.

Venereal diseases increased during the war, infection occurring chiefly in the interior and at the depots. It is said that the equivalent of two army corps are continually incapacitated from these diseases.

Chloride of lime is made by adding 100 grams to a litre of water and then diluting to 10 times the volume. This antiseptic acts more strongly when heated and attacks metals. Corrosive sublimate is used one to one thousand and acts better when 2 grams of sea-salt per litre is added. Heavy coal tar oils are valuable in the urinals. After use by patient, all linen and bed clothing are sterilized by steam or liquids. For dejecta, prolonged contact with 5% copper sulphate, 2% creosol or 4% chloride of lime is used.

For field disinfection the British use a portable Thresh steam sterilizer which will hold 60 blankets at 100° C. Liquor cresoli Saponatus is the standard disinfectant used in the field, but carbolic acid and formalin, 8 ounces to the gallon are also used.

In temporary encampments the shallow straddle trench is the best. Dirt is heaped upon both sides. For urine a soakage pit is used. This is three-foot cube, the soil at the bottom loosened and the pit filled with graded stones. Funnels are inserted in each corner. In the French trenches, a deep pit is constructed parallel and well behind the trench line. The passage way to the pit slopes from the main trench to prevent flooding during heavy rains. A platform is constructed around the pit which is 8 to 10 feet deep. After use, earth is thrown in when three-quarters full a coal tar deodorant is put in. Daily a disinfecting substance is added. The English place buckets in bomb-proof dugouts. The buckets are removed by the relieved troops who bury the contents and bring the buckets with them on their return.

Directions for protection from cold, treatment of frost bite and corns, personal cleanliness and care of the feet are given. Frequent change and washing of clothing, daily change of socks, loose puttees and large shoes well greased are advised. Blisters are pricked at the end of the day and painted with tincture of iodine. For corns a solution of salicylic acid 60 grains, extract cannabis indica 8 grains, collodium one ounce is used. On the march one quart of water is given for every seven and a half miles marched. Coffee or tea before starting and something kept in the mouth during marching is advised.

Rats are best destroyed with phosphorous made up in 4% tablets. The French also use a virus which is placed on food. To destroy vermin, men are taken into rooms where there are hot baths. The clothing is removed and placed in strong disinfectant. After the use of soap and lysol clean sterilized clothing is put on and when necessary the heads are washed in a mixture of kerosene and olive oil and hair clipped.

Simulation of disease is often attempted by ingestion of picric acid. This causes a juandice color and constitutional reaction. Picric acid may be detected in the urine. Conjunctivitis is produced by means of irritating substances placed under the eyelid. The subcutaneous injection of kerosene or turpentine causes abscesses. These are sterile. Itch is simulated by pricking spaces between the fingers with a needle and rubbing with salt. Voluntary infection with venereal disease in order to avoid duty in the trenches is also known.

Water purification in the field is best carried out by boiling. For semi permanent encampments the Darnell filter is used. Chemical sterilization is most satisfactory. Hypochlorite of lime 30 grains per 100 gallons is the standard practice. Sodium Bisulphate in tablet form made up with oil of lemon and saccharine are used by the British when on the march. Two grams of the salt added to the contents of an English water bottle gives .07 per cent free H_2SO_4 which destroys bacteria in one-half hour. The solution, however, attacks metals and alloys. Aluminum bottles are most serviceable with these tablets.

E. K.

Military Medicine

MILITARY INSTRUCTION AND THE "ALBANY IDEA."

(*Continued from September* ANNALS, *p. 450.*)

The admirable work done by the Chemical Club in Albany in military preparedness has been demonstrated by an important pamphlet recently issued. As the scheme is of such far-reaching value, it has been thought wise to reprint it in the ANNALS so that it may receive a larger circulation than the privately distributed pamphlet, and may also have permanent record.

The following named physicians are the members of the Clinical Club who have accomplished this large task: Dr. ARTHUR J. BEDELL, Dr. FREDERICK C. CONWAY, Dr. ERASTUS CORNING, Dr. JOSEPH A. COX, Dr. MALCOLM DOUGLAS, Dr. EUGENE E. HINMAN, Dr. ELLIS KELLERT, Dr. JOSEPH A. LANAHAN, Dr. JOSEPH P. O'BRIEN, Dr. DANIEL V. O'LEARY, Dr. JAMES F. ROONEY, Dr. HARRY RULISON, Dr. JAMES N. VANDER VEER.

PROBLEM NO. 5.

General Situation.

War has been in progress between the United States and a foreign power for a year and a half. Part of eastern Massachusetts, the southern parts of Rhode Island and Connecticut and the lower portion of the Hudson Valley are in the hands of the enemy.

United States forces are strongly intrenched in positions north of Saratoga in New York State and in positions along the Berkshires and extending through Southern New England and the lower Hudson Valley. Albany, N. Y., is being used as a base for these armies.

Special Situation.

Because of the congested conditions of the railroads running west from Albany, due to the movement of troops and munitions to and from the interior, it has been impossible to transport the large numbers of prisoners being taken and the alien civilian population that has been interned, to cities in the interior. Detention camps for these prisoners and detention camps for civilians are being established in this vicinity.

The Clinical Club has been charged with the management of all sanitary aspects of the problem thus arising.

The following is suggested as an outline for the solution of the foregoing problem.

The character of the stockade to be erected, guarding of prisoners and administration of camp are purposely omitted, and only the sanitary aspects are here considered.

PROBLEM No. 6.

Detention Camp Problem.

Sanitary Aspects.

This should be considered under two general headings:

Camp Hygiene and Personal Hygiene.

Camp Hygiene.

1. Sites available in relation to sufficient area—character of soil—amount of sunlight and shade—transportation facilities—exposure to prevailing winds, etc.

(The guide in relation to area is that it will require four acres per thousand persons, and this includes recreation grounds, hospitals, etc.).

Water Supply.

These camps will be of permanent or semi-permanent character and the water supply will approximate in character of distribution that of a city.

Sources of Supply.

Driven wells—tapping main sources of city supply. (Twenty gallons per person per day is guide to maximum required. This will be greater or lesser according to kind of latrines used.)

If water is contaminated, methods of purification should be outlined by filtration, boiling and chemical methods, and water should be examined at regular intervals to detect contamination. Safest of all methods for purification is chlorination method.

Sewage Disposal.

In considering this, note probable cost of labor and transportation available and necessary; the distance to be traversed; character of soil; and any unfavorable circumstances that may modify the plan thought to be the best one to adopt.

Permanent sewage systems such as are utilized in cities; character of plumbing and amount of piping needed. (Further outline of this will be found below under "Housing.")

Housing.

The possibility of utilizing large public buildings, in parks, etc., should be considered. (A one-story building 195 feet long by forty-five feet wide by fourteen feet in height will give ample air space for 200 persons with bed-sacks, clothing, etc. Window space two and one-half by five feet and windows five feet apart.) Non-commissioned officers (prisoners) should have part of this building partitioned off for their use.

Buildings should be raised above ground about two feet; character of construction, wood, concrete, portable houses will vary according to local conditions of materials, labor, etc.

Bedding material needed; amount and character of same.

Baths.

Number needed and location of same; community showers; sterilizing rooms or large autoclaves for weekly sterilization of clothing; number required.

Kitchens.

Dimensions; number of cooks required.

Laundries.

Number required; machinery necessary.

Latrines.

Character will depend on locality; method of disposal of excreta.

Character of soil; proximity and possibility of contamination of camp and nearby cities water supply. Possible types; kind obtainable, etc. Ordinary closets and urinals flushed with water; open cement basins covered by seats; Harvard flush closets.

Pit latrines; number of latrines needed per one hundred persons and amount of material necessary for construction; deodorants and disinfectants needed and fly protection necessary.

Garages.

Fire protection; method of storage of gasolene.

General Fire Protection.

Sprinklers:

Fire plugs (hydrants) along streets; number needed will depend largely on type of construction of buildings; organization of fire companies and apparatus necessary.

Hospitals.

Will conform to plans on file in Surgeon-General's office.

Medical attendance necessary for camp. Staff for hospital should conform to general requirements for civilian hospitals. Hospital administration; nurses; number required. In addition one medical officer per five hundred persons in the camp will be required for overseeing sanitation and general medical work. Interned medical officers may be assigned to duty. (Further remarks on this phase of the problem will be found in the suggested sanitary order that follows.)

Separate hospital facilities will be required for the isolation and treatment of communicable diseases; with due regard to pulmonary tuberculosis, syphilis.

Provisions should be made for inspection of all persons at regular intervals for the early detection of any contagious disease.

Regular inspections twice weekly of all persons, clothing, bedding, etc., for the detection of vermin. Details should be worked out for the prompt segregation of vermin infected individuals; the destruction of the vermin on person, clothing or bedding and the disinfection of buildings occupied by these persons.

Heating.

Stoves; coal and wood; open fireplaces; oil stoves; gas stoves.

Food.

The food available will depend upon the military necessity of the Campaign; of the troops at the front, and the civilian population; and should be worked out upon a caloric basis, of balanced diets reckoned per individual with special reference to the prevention of pellagra, scurvy and beri-beri.

Kosher meat will be required for Hebrews.

Prisoners (enlisted men and civilians) will probably not be furnished with knives and forks (because of the possible use as weapons) and food must be cooked in such a way as to be eaten with wooden spoons or such like utensils.

Refuse Disposal.

In estimating this consider cost, amount of labor and transportation necessary and available; distance to be traversed; character of soil; any other unfavorable circumstances that may modify the plan thought to be the best one to adopt.

Possible methods that might be utilized.

A—Incineration.
B—Refuse utilized as fuel.
C—As food for hogs in swine raising districts.

Method of sanitary policing.

Inspection, sanitary squads, etc.

PERSONAL HYGIENE.

Civilians and soldiers on arrival at detention camp should be quarantined for a minimum period of three weeks before mingling with other occupants of the camp. A special portion of the camp should be reserved for new arrivals and contact with others be prevented; special methods are necessary and should be instituted for the detection of cholera and typhoid carriers, etc., all should be vaccinated against smallpox.

Methods of vermin destruction.

The following modeled after General Order 20, Division National Guard New York, 1911, is suggested as the basis for a sanitary order to govern a detention camp.

Blank Place,
Blank date.

General Orders
No. —

1. The senior medical officer will supervise the hygiene of the entire camp. Under his direction sanitary inspections of the entire camp will be made daily and as much oftener as necessary by a medical officer designated as Sanitary Inspector. Inspecting officers will call the attention of responsible officers directly to sanitary faults observed, and the latter officers will take the necessary steps to correct them. Any failure to remedy unsanitary conditions will be reported to the Commanding General.

2. The Sanitary Inspector will bring to the immediate attention of the proper commander any sanitary defects needing correction. He will make notes of his inspections and recommendations and submit these daily in person to the senior medical officer of the camp and report in writing any failures to remedy unsanitary conditions.

The medical officers assigned to each five hundred persons will make the sanitary inspections of all buildings, kitchens and the like used by these persons and organize a sanitary squad to assist him in this duty. Any sanitary defects found by him will be reported to the proper officers and promptly corrected. He will execute directions regarding sanitation received from the Sanitary Inspector.

3. General neatness and orderliness will be maintained at all times. The floors and walls of all buildings will be kept clean and sanitary. The interior of tents will be kept clean, the walls raised daily during the day time in fair weather and all buildings and tents adequately ventilated at night. Tents must be furled or struck occasionally.

4. Officers will be held responsible that kitchens, bath houses, company streets and surroundings are always kept clean and orderly. At fatigue call a detail of persons will be assigned to such duty, and provided with the necessary brooms, shovels, gunny sacks, etc., will make under the supervision of a commissioned officer a thorough police of its

camp ground and load the waste into wagons furnished for this purpose. These men will not be dismissed from police until so ordered by the proper officer after careful inspection of the work performed. The collected waste will be removed under the direction of the Sanitary Officer.

5. Closets and Urinals. The buildings, seats and surroundings will be kept at all times thoroughly policed, and the seats will be scrubbed daily with soap and water by men detailed from those using the closets and urinals. Toilet paper must be kept from blowing about or lying on the ground, and a light must be kept burning in each closet or urinal during the hours of darkness.

6. All food and water in camp will be protected from dust, flies and sun. An eating place will be established for each one hundred persons and individuals will not be allowed to take food into barracks or tents. All eating utensils will be thoroughly cleaned immediately after using. Garbage, until finally disposed of, will be placed in tightly covered cans, as will all liquid wastes, which will be reduced to the minimum, consistent with cleanliness. The throwing on the ground of water from the kitchens or water in which cooking or eating utensils have been washed is prohibited. Garbage cans will be kept on the same sites, preferably on stands, and the adjacent grounds or floor kept scrupulously clean. After being emptied the cans will be burned out with a wisp of straw, paper or kerosene and the outside will be kept clean.

7. Personal Cleanliness. Each individual in the camp must bathe at least twice weekly. Each individual must wash his hands thoroughly before each meal and after going to the toilets. Toilets and baths must be kept scrupulously clean.

8. A medical officer will be designated as Sanitary Officer. He will execute the directions he receives from the Sanitary Inspector. He will manage the final disposal of wastes and horse manure, the dumps and incinerators, and make every effort to maintain the camp in a sanitary condition. His directions as to the disposal of wastes and repairs to plumbing shall be obeyed by all concerned.

He will make daily requisition on the Quartermaster of the camp for such transportation, labor and material as he may need. When assigned to this service they shall not be diverted to other uses except by orders from this headquarters or else turned in as no longer needed.

9. The Sanitary Squad. In order to have a proper sanitary condition constantly maintained in every part of the camp, properly trained and instructed men, preferably drawn from the sanitary service, will be detailed for members, of the Sanitary Squad in the proportion of five to

each five hundred individuals. They will be assigned to their duty by the Sanitary Inspector.

The Sanitary Squads will make frequent inspections of kitchens, streets, toilets and baths in that portion of the camp assigned to them and draw the attention of proper non-commissioned officers or other responsible persons to sanitary defects requiring correction by them, instruct them in the proper method of correcting such defects and report the results of inspections to the medical officer in charge of the sanitation of the particular part of the camp to which they are assigned.

By command of MAJOR-GENERAL X.
X. Y. Z.,
Lieut.-Colonel, Adjutant-General.

The same principles of sanitation outlined for detention camps for military prisoners apply to interned civilians.

For these, separate camps should be established for men and women, excepting that children under puberty should be housed with the mother.

Buildings will have to be modified somewhat to accommodate mothers and children.

Schools will be required.

Officers will be confined in quarters separated from enlisted men and proper arrangements made for accommodations suitable to their grade and rank.

In all detention camps arrangements should be made to give opportunity for some form of work, recreation and exercise. This should be adapted to the national and racial characteristics of the persons confined, and the previous callings of groups of individuals.

Provision should be made for the re-education of crippled and blinded persons and where possible markets should be procured for their work.

Farms for raising vegetables might be established.

ORGANIZATION. *

Land Forces of the United States.

1. The organized land forces of the United States consist of the Regular Army and of the Organized Militia when called into the military (land) service of the United States.

2. In peace the Army of the United States consists, ordinarily, of the Regular Army; but, whenever the United States is invaded or in danger of invasion from any foreign nation, or of rebellion against the authority of the Government of the United States, or the President is unable with the regular forces at his command to execute the laws of the Union, he may call into the military service of the United States all or any part of the militia organized as a land force.

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* See "Outline of Subjects," No. II.

In war, or when war is imminent, the Army of the United States, after the Organized Militia has been called into service, may be (further) augmented by the employment of volunteers.

3. The Regular Army of the United States consists of regiments of infantry, cavalry, and field artillery, a coast artillery corps, general officers, general staff corps, an adjutant-general's department, an inspector general's department, a judge advocate general's department, a quartermaster corps, a medical department, a corps of engineers, an ordnance department, a signal corps, a military academy, chaplains, and such other officers and enlisted men as are provided for by law.

UNITS OF ORGANIZATION.

4. The company and regiment are both administrative and tactical units; the battalion and brigade are, as a rule, tactical only. The division is the great administrative and tactical unit forms the basis for army organization. A separate brigade is a command designated as such in orders from a competent authority.

5. Permanent brigades and divisions are created by the War Department. A brigade normally consists of the headquarters and three regiments of infantry. It is the appropriate command of a brigadier-general. For instruction at field exercises, maneuvers, etc., temporary brigades and divisions may be formed and the necessary staffs provided.

6. Division—A division normally consists of:

Troops: Headquarters, 3 brigades of infantry, 1 regiment of cavalry, 1 brigade of field artillery, 2 regiments, 1 pioneer battalion of engineers, 1 field battalion of signal troops, 4 ambulance companies, 4 field hospitals.

Service of supply: Officers and assistants, 1 ammunition train, 1 supply train, 1 pack train. Unless detatched therefrom, the pack train accompanies the supply train.

A division is the appropriate command of a major-general.

7. A cavalry brigade consists of the headquarters and two or more cavalry regiments, three being the normal organization. When the brigade acts independently, horse artillery is attached. A cavalry division consists of:

Troops: Headquarters, 2 or more cavalry brigades, 3 being the normal cavalry component, 1 regiment of horse artillery. 1 pioneer battalion of engineers (mounted). 1 field battalion of signal troops, 2 ambulance companies, 2 field hospitals.

Service of supply: Officers and assistants, 1 ammunition train, 1 supply train (including sanitary reserve), 2 or more pack trains. Unless detatched therefrom, the pack trains accompany the supply train.

A light bridge train is attached when necessary.

8. Divisions or brigades operating independently have the necessary additional troops and staffs attached. Detachments may also be organized, the composition and staffs being determined by the duty to be performed.

9. Divisions, including cavalry divisions, receive numerical designations in the order of their creation. Brigades are designated first, second, etc., in each division.

10. Field Army.—A command composed of two or more divisions and the necessary auxiliary troops, constitutes a field army. It receives a numerical designation, and is the appropriate command of a lieutenant-general. The auxiliary troops of a field army are ordinarily:

One cavalry brigade or division, 1 regiment or brigade of infantry, 1 regiment or brigade of heavy artillery, normally 1 battalion for each division in the field army, 1 pontoon battalion, 1 aero-wireless battalion, 1 ammunition train, 1 supply train, 1 ambulance company, 1 field hospital.

For purposes of administration, marching and camping, the auxiliary troops (less the cavalry) of a field army are generally united in rear of the divisions and when so united form the "auxiliary division." They are sent to the front when required. To this division may also be attached siege artillery and an engineer park, according to the nature of the operations, and cavalry when necessary. As far as practicable, the auxiliary division is maintained near the head of the line of communications.

11. Army.—A command composed of two or more field armies constitutes an army. It receives a territorial designation and is the appropriate command of a general. Field armies and armies are created only by authority of the President.

12. Line of Communications.—For each field army or important expeditionary force about to take the field, a base is selected and equipped and a service of the line of communications established, both under the control of the commander of the field army or expeditionary force.

The line of communications includes the base where depots of supplies and hospitals are maintained, and the supply or issue depots at the front. As the line advances intermediate bases may be established where supplies can be collected. When necessary for purposes of administration or defense, the line may be divided into sections and a subordinate commander assigned to each.

The duty of the commander of the line of communications is to keep the troops at the front provided with ample supplies of all kinds that may be required, and to transport the sick and wounded to the base as rapidly as possible. To accomplish this he keeps the rail or water head of the line as near the army as possible, and establishes branch supply depots or stations in reach of the division field trains, using field railway or wagon transportation. The evacuation hospitals are generally placed near these division supply depots so that advantage may be taken of all available transportation.

The nature and amount of supplies required from the line of communications are indicated in orders from the commander of the field army. but the supplies are sent direct to the divisions or separate units.

When two or more field armies are united into an army, each field army, as a rule, maintains its own line of communications.

Commanders and Staffs.

13. Command.—In case of death, disability or absence of the commander of a body of troops, the next in rank in that body exercises command thereof until the commander returns or a new one is provided.

14. In matters relating to court-martial, the supply service, and money and property accountability, the administrative control vested in commanders of territorial departments devolves, in the field, upon division commanders under the orders of the commander of the field army or department. Commanders of separate brigades have the powers of division commanders.

15. Headquarters—The headquaarters of a command is the commander's official residence, or place from which his orders are issued; the term is also used to designate collectively the commander, his staff and personnel attached thereto. Battalions, squadrons, and higher units have headquarters.

The headquarters of brigades and higher units are provided with suitable guards, and the commanders of such guards are vested with authority to establish, arrange and command the headquarters camps. They direct the movements of, and furnish the guards for, the headquarters trains, and preserve order at headquarters.

In the field one squadron of the divisional cavalry of each division is, as a rule, detailed as provost guard, small guards being detached therefrom for duty at division headquarters and at the headquarters of the infantry brigades. The squadron commander acts as provost marshal of the division. He has charge of the division postal service and performs duties similar to those of the provost marshal general of a field army. The commanders and staffs of brigades, divisions, and field armies are provided with orderlies from the headquarters guards.

16. Staffs.—All military units larger than a company are provided with staffs whose number and rank vary with the size of the command. In

units larger than a brigade, and in separate commands under general officers, the staff serviceis under the supervision of an officer, when practicable, of the general staff, designated as chief of staff.

The staffs of commanders of the normal brigades and higher units herein authorized are as follows:

(a) Brigade, including cavalry brigade.

1 brigade adjutant, major (1 clerk, civilian).
2 aids, lieutenants.

(b) Division, including cavalry division.

1 chief of staff, colonel.
1 assistant chief of staff, major or captain.
1 division adjutant, major.
1 division inspector, major.
1 division judge advocate, major.
1 division quartermaster, lieutenant colonel.
1 division surgeon, lieutenant colonel.
3 aids, captains, or lieutenants.
6 clerks, civilian.

When necessary, the commanders of the battalions of engineers and signal troops may be directed, in addition to their other duties, to act, respectively, as division engineer and division signal officer. When a division acts independently a division engineer (lieutenant colonel) is detailed on the staff of the division commander.

(c) Auxiliary Division.

1 chief of staff, lieutenant colonel.
1 division adjutant, major.
1 division inspector, major.
1 division judge advocate, major.
1 division quartermaster, major.
1 division surgeon, major.
Personal aids.
3 clerks, civilians.

Medical Department.*

The Medical Department consists of a surgeon general, and of the commissioned and enlisted personnel, nurses, and dental surgeons authorized by law for that department. The personnel of the department and all other persons assigned to duty with that department are collectively called sanitary troops.

For duty in the field, sanitary troops are divided into (1) those assigned to regiments and other units, and (2) those formed into independent sanitary units, such as ambulance companies and field hospitals.

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*See "Outline of Subjects," No. IV.

Duties of Medical Officers.†

Medical officers are charged with the duty of investigating the sanitary condition of the Army (and with State troops of the National Guard) and making recommendations in reference thereto, of advising with reference to the location of camps and adoption of systems of water supply and purification, and the disposal of wastes, with the duty of caring for the sick and wounded, making physical examinations of officers, enlisted men and applicants for commissions or enlistment, the management and control of military hospitals, the recruitment, instruction and control of the hospital corps.

The surgeon, under the direction of the commanding officer, shall supervise the hygiene of the post or command, and recommend such measures as he may deem necessary to prevent or diminish disease. He shall examine at intervals specified in Regulations the sanitary condition of the post and report the result in writing to the commanding officer of the post. He shall recommend such measures as he may deem necessary to prevent or diminish disease among the troops. He shall examine at intervals specified in Regulations the sanitary condition of the camp and all buildings, the drainage and the amount and quality of the water supply the clothing and habits of the men, the character and cooking of the rations, and shall immediately after such examination make report thereof, in writing, to the commanding officer with such recommendations as he deems proper. The commanding officer shall return the report with his views thereon, and if he deem the action recommended impracticable or undesirable shall state fully his objections. A copy of the report and indorsement shall be forwarded by the medical officer, through the regular channels to the Surgeon-General in the Army and (to the Chief Surgeon Division in New York State) for his information.

Men desiring to enlist or re-enlist shall be examined in accordance with the following instructions, and shall not be accepted unless they pass the medical examination.

The following instructions will govern recruiting for the Regular Army on and after November 1, 1912:

Applicants for first enlistment must be between the ages of 18 and 35 years, of good character and temperate habits, able-bodied, free from disease, and must be able to speak, read, and write the English language.

No person under 18 years of age will be enlisted, re-enlisted, or accepted with a view to enlistment, and minors between the ages of 18 and 21 years must not be enlisted, nor accepted with a view to enlistment, without the written consent of the father, only surviving parent, or legally appointed guardian, to the minor's enlistment.

No man who has been a member of the Organized Militia of any State, territory, or the District of Columbia will be enlisted in the Regular Army until he presents satisfactory evidence that he has been honorably discharged therefrom. In no case shall an applicant known to be a member of the Organized Militia be accepted at a recruiting station with a view to enlistment. Recruiting officers will question carefully all applicants regarding membership in militia organizations and will require those who acknowledge themselves to be or to have been members of such organizations to exhibit their discharges therefrom before accepting them.

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†See "Outline of Subjects," No. X.

Original enlistments will be confined to persons who are citizens of the United States or Porto Rico, or who have made legal declaration of their intention to become citizens of the United States. Applicants for original enlistment who claim to have been naturalized or to have declared their intention to become citizens of the United States will not be accepted for enlistment nor enlisted unless they exhibit to the recruiting officer documentary evidence, under the seal of a court of competent jurisdiction, of their naturalization or their declaration of intention to become citizens. The notation "certificate of naturalization exhibited" or "copy of declaration of intention exhibited," with date, serial number, and title of court from which issued, will be made by the accepting officer, under the head of remarks, on the report of physical examination, Form No. 135, A. G. O., in the case of each such applicant who is accepted.

Married men will be enlisted only upon the approval of a regimental commander or other proper commanding officer if for other than a regimental organization.

Applicants will be required to satisfy the recruiting officer regarding age and character, and should be prepared to furnish the necessary evidence.

For infantry, Coast Artillery, and Engineers the height must be not less than five feet four inches and weight not more than one hundred and ninety (190) pounds.

For Cavalry the height must not be less than five feet four inches and not more than five feet ten inches, and weight not to exceed one hundred and sixty-five (165) pounds.

For Field Artillery the height must not be less than five feet four inches and not more than six feet, and weight not more than one hundred and ninety (190) pounds. For the mountain batteries the height must not be less than five feet eight inches.

A variation not exceeding a fraction of an inch above the maximum height given for Cavalry and Field Artillery is permissible if the applicant is in good health and is in other respects desirable as a recruit.

The minimum weight for all arms of the service is one hundred and twenty-eight (128) pounds, subject to variations below that standard as explained herein, but in no case will an applicant whose weight falls below one hundred and twenty (120) pounds be accepted without special authority from the Adjutant General of the Army.

The Military Law of New York State (Sec. 95, Art. V) provides for the enlistment in the National Guard under certain restrictions "that men who are sixteen years and more of age may be enlisted as musicians." Also the age limit for enlistment is forty-five years and no restrictions as to married men.

In passing a recruit, the medical officer shall examine, weigh and measure him stripped; see that he has free use of his limbs; that his chest is ample; that his hearing, vision and speech conform to requirements; that he has no tumors or ulcerated or extensively cicatrized legs; no hernia or chronic cutaneous affection; that he has not received any contusion or wound of the head that may impair his faculties; that he is not a drunkard; is not subject to convulsions; and has no infections or other disorders that may unfit him for military service. The recruit must be effective, able-bodied, sober and free from disease.

A. The room in which the examination is conducted should be well lighted and large enough for the men to exercise in walking, running and jumping, as every organ directly concerned in locomotion should be subjected to inspection. Only those persons who are absolutely required should be present at the examination.

B. The person of the recruit shall be clean.

No one shall interefere with medical officers in the examination, nor attempt in any way to influence their decisions.

The vision of each eye shall be tested separately, and without correcting lenses at a distance of not less than twenty feet and recorded separately. The hearing of each ear shall be tested separately. Men who are apparently under the influence of any drug or alcohol or who have been drinking freely and men who are habitually dirty in person or clothing shall be rejected.

The following are the standard requirements:

a. The following table is given for convenience of reference:

MEASUREMENTS.

Height Inches	Weight Pounds	Chest measurements at expiration Inches	Mobility Inches
64	128	32	B
65	130	32	2
66	132	32½	2
67	134	33	2
68	141	33¼	2½
69	148	33½	2½
70	155	34	2½
71	161	34¼	2½
72	169	34¾	3
73	176	35¼	3

b. It is not necessary that the applicant conform exactly to the figures indicated in the foregoing table. The following variations below the standard given in the table are permissible when the applicant for enlistment is active, has firm muscles, and is evidently vigorous and healthy:

Height Inches	Chest at expiration Inches	Weights Pounds
64 and under 68	2	8
68 and under 69	2	12
69 and under 70	2	20
70 and upward	2	15

c. Minimum height, five feet four inches.

d. Minimum chest measurement at end of normal expiration, thirty-two inches.

e. Minimum mobility, two inches.

f. Minimum weight for all arms of the service, 125 pounds.

g. Maximum weight for cavalry and men who will be mounted, 165 pounds. For all other arms of the service, 190 pounds. A recruit of greater weight than 190 pounds may be in every way qualified for the service and whether he be or be not thus qualified will depend much more on his height, chest and abdominal circumference as compared with his height than on the mere fact of weight alone.

h. No organic disease of eye or lids. Right eye 20/40, left eye, 20/100 for line. For Hospital Corps, 20/70 correctible to 20/20. In the signal corps freedom from color blindness.

i. Hearing normal in each ear. Freedom from organic disease of each ear.

j. Normal articulation. Freedom from organic disease or deformities of the organs of speech.

The following diseases, conditions and deformities shall cause rejection:

All forms of acute disease; contagious or communicable disease, every chronic organic disease; including rheumatism and gout; repeated attacks of acute articular and muscular rheumatism, or of sciatica; asthma, hay fever, chronic laryngitis, all forms of valvular heart disease, or of nephritis, high arterial tension, aneurism, hernia, epilepsy, mental aberration, depravity, cystitis, organic and chronic functional disease of the nervous system, marked knock-knee and bow legs, syphilis, all form of tuberculosis, chronic ulcers, deformities, and results of previous injuries of such degree as to manifestly render the recruit unfit for military duty, hydrocele, fistula in ano, the loss of a great toe, a thumb, or of any two

(*To be continued*)

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IMPORTANCE OF INTENSIVE STUDY OF THE CRIMINAL HIMSELF.

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"Know thyself" was represented more than two thousand years ago to be the highest attainment for which human beings could strive.

Dr. Pinel in Paris more than a hundred years ago called attention to the great number of volumes adorning the shelves of libraries in comparison with the meagre record of exact observations conducted upon individuals.

Upon entering the medical department of the Crerar Library with a friend, he said to me: "Here is where you get the material for your talks about the Psychopathic Laboratory." I was obliged to reply, without realizing how important it was, that I did not; that I got it from John Doe and Richard Roe, from thousands of individuals charged with crime who came to my notice during twenty years' daily experience in the courts, interpreted in the last few years, in the light of testimony in court and demonstrations in the Psychopathic Laboratory by the director.

During ten years' experience as a public prosecutor in the criminal courts of Cook county the fact was constantly being impressed upon me that large numbers of the criminal classes were defective to the extent that their defect was the cause of thir criminality. Especially was this so of many offenders of adolescent age.

The first fact that attracted my notice was the uniformity of the number, character and conditions of crime. For instance, in Chicago, the aggregate number of arrests for felony from year to year is as uniform, proportionate to population, as the number of births. On making inquiry elsewhere, we would find that the same uniformity exists in all countries and all degrees of civilization. Only about 2 per cent of the population in most civilized countries are ever charged with crime. If we were to look into the character of crime for which convictions were had, we would find a like uniformity. If we were to ascertain the ages of those arrested and convicted, we would find that the average criminal age throughout the world is between 18 and 24.

This static character of criminal statistics in relation to population the world over; the fact that the criminal age, when most first commitments occur appears early when responsibilities come, and ranges from 16 to 24 years, and that only two per cent of the population are ever charged with crime, always impressed me as significant facts pointing to something inherently defective in the race. The investigation and research of the alienist and the psychologist tend strongly to confirm this belief.

Thus far little or no impression has been made on the static existence of crime by our efforts at punishment and prevention.

There were at one time in England 165 crimes punishable by death; in turn maiming, mutilation and branding were practised. Then the idea of adding humiliation was practiced; ducking in the pond, public square whipping posts, etc., were tried; and the idea of solitary confinement followed. The ball and chain was next added. As a reaction to these conditions the idea of reformation was introduced in penology; then came parole and probation. Yet in spite of all these efforts, extending over a long period of years, the percentage of crime and criminals remains static, about two per cent of the general population still are criminals. It may be of interest to know that it has been conservatively estimated that between one and two per cent of the general population are feeble-minded. This small per cent however is an expensive element in the community.

The cost of crime and the care of the defective classes is becoming a great burden upon society. The State of New York now spends one quarter of its total expenditures in the care of the insane, and then more than ten thousand who need institutional care are not receiving it. The State of Illinois pays for its charitable institutions 28.1 per cent of its total expenditures, of which the mental, nervous and insane group make up 21.8 per cent, and this state, like New York, is not giving institutional care to thousands who need it. The city of Chicago expends about eight million dollars annually in handling the criminal situation, over six and one-half millions being expended for the police department alone. That we are not getting an equivalent in results for such outlays, all thoughtful people must agree. Besides, the record of assassinations and attempts made on the lives of others by insane dementia praecox and feeble-minded individuals is not a credit to our methods of handling this class.

The courts are now censuring and punishing them because they conflict with laws intended for normals and not for defectives. They are deserving of our care and consideration. The idea of full responsibility and criminality in these cases must be corrected. It is all the normal can do to hold his own in the fierce competition of modern life. The subnormal has the same desires, the same instincts to eat, to procure shelter and to preserve self, as the normal. In competition with the normal they fail and, in more direct efforts to supply needs, break laws intended only for the normal. In industry they get the lowest and poorest paid work, which, as a rule, only lasts a short time. Charity bureaus clothe, feed and find them work, and yet they do not get on. Industry more and more weeds them out as incompetency identifies them.

In view of the comparative failure of our past efforts to suppress crime, of the increasing charge upon the state in taxes for maintaining police prosecutions, courts and jails, of the menace to society of the defective delinquent when uncontrolled and running at large, and of the injustice involved in the neglect of the feeble-minded, we must adopt new methods to prevent crime and to care for the mentally afflicted. Since there is a correlation between crime and mental disease, we should try the modern methods of the medical profession—*diagnosis* and *prevention,* where cure is impossible. As has been said in medicine, the diagnosis is half the cure; so we hope and feel in criminology that if we can diagnose the cause we will be well on the road to a cure.

Medical science has advanced, but the law has lagged behind. In the study of defectives and criminals, the medical profession, unlike the legal, has gone forward, but not with rapidity, for the youngest of all the sciences is the study of the activities of living individuals. One reason for the delayed birth of such inquiries grows out of the fact that the average physician outside the alienist group has given, as a rule, but little attention to the subject of insanity or feeble-mindedness, but leaves that field to the specialist. The average physician devotes himself to curing disease, and as there is no cure for feeble-mindedness, he is but little interested in the subject. Until a few years ago very little instruction was imparted in the medical schools in psychology and psychiatry. The financial rewards were not inviting in this field, nor were the prospects of successful achievement on a par with the opportunities in internal medicine or surgery. If the ordinary physician has lacked interest in the subject, what must be said of the lawyers and the judges? Unless a large fee were involved, which seldom was the case where the feeble-minded were concerned, the lawyer gave no attention to the subject. Our judges as a rule have little knowledge of psychology, sociology, anthropology or the significance of criminal statistics, and, if we were to judge solely by the legal test for insanity prevalent in most of our states, the medical profession is many years in advance of the legal profession. Abuses of expert testimony in the courts in insanity cases have resulted in obscuring the substantial progress made by the medical profession in the study and classification of mental diseases. Courts are beginning to rely more upon the opinions of medical men than formerly. The institution of psychopathic laboratories in connection with courts is an indication that the legal profession is beginning to appreciate that a large number of the chronic offenders are not always benefited by the legal punishment which is inflicted with the three classic objects in view—retribution, intimidation and reformation. We are beginning to understand that the unrelenting and retributive idea of "an eye for an eye" has no application to the irresponsible. The idea of punishment for a deed presupposes responsibility. We are learning that many of the criminal insane and feeble-minded on whom legal punishment has been inflicted in our courts were not fully responsible and their punishment did not work their reformation.

Prof. Dr. Hans Gros, who died not long ago, and who was one of the foremost criminologists of the world and director of the Criminalistic Institute at the University of Gratz, Austria, one of the greatest of its kind, said in his wonderful work, "The Handbook for Examining Magistrates," that it would be much better that judges would make mistakes in sending no end of normals to the psychopathologist for examination, rather than make the mistake of passing over one who was not normal. But even if they should do this, they could never wipe out the terrible stain which rests upon them for hanging and incarcerating all these years irresponsible individuals.

Perhaps our efforts to overcome recidivism, which is a reflection on our theory and methods of punishment, have had more to do in driving us to a comprehension of the criminal than any other factor. So long as human nature is what it is, a certain amount of law infraction must be expected. A law implies its abuse or avoidance in a percentage of cases. We can not look forward ever to escape from crime in this sense. As we breed out certain grosser criminal traits, we raise our social and legal standards, and persons formerly normal become criminals by virtue of more stringent legal regulations. But with our idea of "retribution, intimidation and reformation" the habitual criminal, the recidivist, was an incomprehensive element; theoretically he should not exist; actually he is present in large numbers. This led first to the theories of the habitual criminal, the criminal mind, the physical stigmata, and all those ideas which proved on closer study to be false theories. So we have been forced to mental study for the key to the problem. If Lombroso had been an alienist and psychologist, the science of criminology would have been much further advanced.

Sweden regulated judicial procedure with reference to accused persons of doubtful sanity as early as 1826. Before judicial judgment was pronounced the opinion of authorized physicians was submitted to the college of health for its approval. The health authorities prescribed further measures to be adopted in dealing with an accused, and not the court, where mental alienation was suspected. Experience showed that a great number of persons mentally deranged were sentenced without inquiring into their mental condition, because the existence of mental derangement was overlooked by the court in more than two-thirds of the cases, illustrating how necessary it is for our law schools to guarantee the scientific capacity of the criminal judge.

The re-discovery of Mendel's Law of Heredity has caused the archaeologist and the historian to revise his notions of the races of man, and it has also caused the alienist and psychologist to look toward heredity instead of environment as a prime factor in juvenile delinquency. The physician has learned, as we laymen are slowly learning, that we cannot change the leopard's spots by environmental means. Environment has not near the influence on the normal boy that has been assumed. Dr. Hickson of our laboratory says: "Thanks to laws of heredity, some of our greatest men have attained eminence despite the slums in which they were born and raised. The normal boy will take care of himself in any environment. That playgrounds, social centers and the like are good for him, no one will deny; that they are essential, is not true, because normality means adaptability. The social agencies do not reach the defective and cannot."

After the re-discovery of Mendel's Law, the development of psychopathology in the great German clinics of Kraepelin in Munich, Ziehen in Berlin and Bleuler in Zurich has contributed most to an understanding of the criminal. Bleuler has developed the psychological approach to mental disease to a very high state. For this reason we chose as director of the psychopathic laboratory of the Chicago Municipal Court an American physician, Dr. William J. Hickson, who had specialized in neurology and psychiatry and spent two and one-half years in the above mentioned European clinics, having been a member of Bleuler's staff for about a year, and also on the psychiatric and neurological staff of the clinic in Berlin.

In our court the chief justice has power to segregate the cases upon the calendar where offenses of a similar character and defendants of a particular group are brought together, such as the Court of Domestic Relations, in which the wrongs against women and children are adjudicated and where either the father or mother is generally the defendant; the Morals Court, in which all proceedings growing out of the enforcement of the laws against vice and immorality are heard; the Boys' Court, in which are gathered all cases for the violation of all state and city laws against boys above the juvenile court age, ranging from 17 to 21 years. These years cover the period of adolescence, the dangerous age, when most first commitments occur. In addition to these courts we have the regular criminal branch courts to the number of thirteen.

The laboratory has been in existence now nearly three years. In a great city like Chicago, 5,000 policemen are on duty daily in the enforcement of law. They apprehend those who do not conform to the normal standards demanded by law, and hence they become agents in bringing material to a great clinic. These courts, therefore, bring together daily in the City of Chicago material for the greatest clinic of abnormal psychology in this country. No medical school in the land has any such wealth of material. This great clinic would have been impossible without the development of the branch courts and without power to segregate the cases upon the calendar.

The history of these branch courts shows that a court is much more than a mere passive arbiter; that under modern metropolitan conditions a court has necessarily a profound social duty. Without in any way impairing the nature of the obligation that the court must be essentially the judicial branch of government, it must give a larger meaning to the word "judicial" in an age when society is bent upon remedial action, when it is necessary to throw light into the dark corners of our civilization and procure data essential to constructive treatment of social ills.

The laboratory has been of great assistance to the court in administering the criminal law; in enabling it to decide wisely when probation should be granted and in discriminating between punishments allowed by law. Of course, there is a certain percentage of more or less outspoken cases of insanity and feeble-mindedness which are more or less obvious to the laymen; a larger percentage is more or less obvious to the police judge; but a still larger number must be reserved for the identification of the expert psychopathologist. The judge is always guided by the "World Test," which Dr. Hickson says is the most adamant of them all and an assaying crucible of the highest value, which consists of the evaluation of the reactions of our cases to their environment, and a checking-up of their capability of adjustment, their failure and successes at home, in school, at work, etc.

The intensive study of the defective criminal classes with present-day knowledge of psychiatry and psychology has brought about a real advance in the suppression of crime. We are finding a large proportion of crime is committed by the defective classes; that a considerable per cent is found to be feeble-minded and, therefore, unable to cope with the difficulties and hardships of a competitive life, and that they break down because of intellectual weakness which unfits them for anything but the simplest sort of work. We are finding that dementia praecox alone or grafted on feeble-mindedness is playing a large rôle in crime, so that it may be regarded as the criminal psychosis par excellence. We are finding that dementia praecox is only second to feeble-mindedness as an underlying cause of conflict with the law; that the vast majority of sex crimes and crimes of violence are perpetrated by the dementia praecox cases. Epilepsy is also an important factor, as are cases of moral defect. The moral defect shows a fair average, though uneven level of mental development, sometimes in their younger years passing one or two years above the average. These cases seem to lack the ability to assimilate or carry out ethical ideas. They appear, except in the lightest grade, to be incurable.

We are finding in the Domestic Relations Court feeble-mindedness, dementia praecox, both uncomplicated and complicated with alcoholism, alcoholic delusions of infidelity and other paranoid manifestations, and a respectable percentage are cases of pfropfhebephrenia, a grafting of dementia praecox upon feeble-mindedness.

We are finding in the Morals Court about the same conditions as in the Boys' Court. They are the female equivalents of the juvenile delinquents from the Boys' Court, except that the average chronological age in this court is about 24.8 years. In a group of 283 girls from the Morals Court the director found 25, or 8.8 per cent showed average intelligence and only about 45, or 15.8 per cent might be considered capable of maintaining themselves independently. About 84 per cent of the group of 283 cases the doctor found to be definitely feeble-minded. This finding of the doctor is corroborated by the experience of a committee of the Chicago Vice Commission, of which I was a member. Under the auspices of the Chief of Police and the Health Commissioner of the city, a special committee of the Chicago Vice Commission, in 1911, in the course of its investigation, visited a famous house of ill-repute kept by a woman which had been run openly for many years, despite the laws of both city and state. So bold had she become, by reason of immunity from prosecution, that she issued circulars containing views of the rooms of her house. It was reported that this woman had, among the inmates in her house, graduates of a well-known women's college. The committee made special inquiry of the inmates, some thirty in number, who were brought before it separately, as to their schooling, age at entry into the life and as to the prevalence of disease. The rumors regarding the education of these women were not well founded. Our inquiries showed that not a single girl in the house had passed the grammar school grades. Nearly all admitted having venereal disease, and it was plain that many were feeble-minded. All claimed to have entered the life at the age of seventeen.

After three years' work with the laboratory we can say that there is a positive correlation between crime and mental defectiveness.

On the whole the underlying defective states that are responsible for crime fall quite noticeably into two main classes: The straight feeble-minded tending more to crimes of larceny and burglary, and the praecox cases, to crimes of violence and sex crimes. The large group of the pfropfhebephrenia cases (dementia praecox grafted on feeble-mindedness) seem to fall into either classification according as the dementia praecox element or the feeble-minded element predominates.

After the foregoing groups the next principal group is the psychopathic constitution, alone or combined, and then a scattering of the various psychoses and neuroses, such as epilepsy, juvenile paresis, hysteria, etc.

The psychological method of approach to mental disease is important in a great laboratory because of the rapidity with which diagnosis can be made. Speaking of the diagnosis of dementia praecox, Dr. Hickson said in a paper read before a meeting of alienists and neurologists:

> "From the clinical side, in a large percentage of these cases, there is nothing very definite on which to establish a diagnosis; while at the same time the disease is of the utmost potentiality in the thinking and doing of the victim; this is sometimes called predementia or latent dementia praecox, which, as a matter of fact, is not latent at all except in the physical sense. The psychological side may be quite well advanced and highly potential criminally, while yet there are practically no definite physical or clinical signs; in fact, as a clinical entity dementia praecox in its present advanced development can be hardly said to exist in a large proportion of cases.
>
> "Many such physical or clinical signs should not be relied upon to make the diagnosis; and it is well known how well cases of dementia praecox paranoides can dissimulate on occasion. By the psychological method we take the diagnosis to the case in the same way that we take the tests these days to the feeble-minded, and not sit by and have to await developments as is the case in many instances diagnosed by the ordinary clinical methods, and these tests are to the dementia praecox in the reliableness and applicability what the Binet-Simon tests are to the feeble-minded. These psychological signs and symptoms are as clear and definite to the properly trained man as they are unknown or unappreciated by those unfamiliar with the method."

The laboratory has examined hundreds of alcoholics. The director says that he has yet to find the first case of chronic alcoholism where there was not at least a psychopathic constitution, dementia praecox, maniac depressive insanity, epilepsy or feeble-mindedness at the basis, with the exception of a few cases where there was a physical basis such as diabetes or tuberculosis, and the man was whipping up his flagging energy with alcoholic stimulants. The group with the mental defects at the bottom of the alcoholism practically all show a defective heredity beyond the average. The fact should be emphasized therefore, that chronic alcoholism is secondary to some underlying mental or physical defect which is primary, and without which the chronic alcoholism would not exist.

I am publishing as an appendix to this paper a report of the laboratory on 2,700 cases. Your attention is directed to the results of the diagnosis.

I am also publishing in the appendix the result of Dr. Hickson's application of the visual memory test. These appear to be genuinely significant and furnish a clew to the type of mental trouble. These drawings show the difference between high and low grade feeble-mindedness, alcoholism, paresis, dementia praecox, etc. Several of the plates show a series of drawings by five different individuals in each group. The feeble-minded lack perception and analysis; in the alcoholic group they show a coarse, irregular, alcoholic tremor; in the drug habitue, lack of perception and a characteristic fine line with tremor; in the dementia praecox, phantasy, or the addition of finishing touches of their own; in paresis, lack of perception, analysis, and in some cases a very irregular and coarse ataxic tremor, similar to the alcoholic, except that they do not approximate the design so closely. Even the layman will see the approach here to a rough mental "finger-print" method of identification of mental disturbance.

I am also attaching to the appendix typical case histories and direct your attention particularly to the heredity.

The law does not now provide for obligatory psychiatric examinations. Whether or not a defendant goes to the laboratory is purely a voluntary matter. Of the thousands of cases that have been brought to be examined in the laboratory, the number refusing examination is almost negative, not exceeding four.

The judges take into consideration in fixing the penalty the fact of morbid disturbance of the mental faculties. On the testimony of the physician who is employed by the city and has no interest for either the plaintiff or the defendant, the court is able to protect the public from the more dangerous types of mental defectives, as for example the dementia praecox, and especially the dementia praecox grafted on feeble-mindedness.

Judge Fisher of the Boys Court sent this last type to the reformatory, because they could be incarcerated under the law for a period of a year. These cases need permanent custody, but the law does not yet permit it. When about 100 of these cases had been committed, I received a letter from Mr. Graves, the superintendent, telling me that the boys from the Boys' Court were an incorrigible lot; that he could not reform them in a year; that it did no good to send them down there. Superintendent Graves had no idea that we were sending him a particular specimen of offender. I wrote him that he could not reform them in a year, nor in a lifetime; that we sent them to him for the safety of the public. These are the type of cases that have made the most trouble in the feeble-minded institutions. They have not been understood but have been classed with the ordinary feeble-minded.

The laws of our state in regard to insanity and idiocy are nearly seventy years old. They will have to be rewritten in the light of modern science. Our American courts have been influenced by English decisions on insanity. The English courts were slow to give up the rulings in McNaughton's case. The Lord Chancellor of England in the House of Lords on so late a day as 1862, declared that:

> "The introduction of medical opinions and medical theories into this subject (of insanity) has proceeded upon the vicious principle of considering insanity as a disease."

There are a few notable exceptions in our American courts. The leading case of Parsons v. State, 2 Southern Reporter, p. 854, an Alabama case, though written thirty years ago, is abreast of modern science. Judge Simmons quoted from the German code relating to insanity, which is said to have been written by Kraepelin. His observation meets the situation of the right and wrong test from the modern point of view. Judge Simmons on page 865 makes this notable statement:

> "The practical trouble is for the courts to determine in what particular cases the party on trial is to be transferred from the category of sane to that of insane criminals; where, in other words, the border line of

punishability is adjudged to be passed. But, as has been said in reference to an every-day fact of nature, no one can say where twilight ends or begins, but there is ample distinction nevertheless between day and night. We think we can safely rely in this matter upon the intelligence of our juries, guided by the testimony of men who have practically made a study of the disease of insanity; and enlightened by conscientious desire, on the one hand, to enforce the criminal laws of the land, and, on the other, not to deal harshly with any unfortunate victim of a diseased mind, acting without the light of reason or the power of volition."

Judge Simmons was thirty years ahead of his brethren on the bench. What a tribute to the quality of his mind and the tenderness of his heart!

A number of our judges, especially those who have held the special criminal branch courts, are becoming exceedingly capable in identifying a defective defendant. The evidence in the case, his conduct or his appearance will inevitably give a clew to the experienced judge. The experienced probation officer or social worker is also relying upon the reports of the laboratory. The advanced workers come to the laboratory for a report as to the mental responsibility and possibilities of reforming their cases. For instance, a few months ago a young man 19 years of age was accused of murdering a woman. He has since been found guilty by a jury, and sentenced to hang which was modified to life imprisonment by the judge. This young man was in the Boys' Court two years previous to this crime and found to have a mentality of a child between 10 and 11 years. He had prior to that time been in the Juvenile Court. The director of the laboratory predicted to one of the judges, when the defendant was in on a minor charge, that he would become a serious offender. Our judge bound him over to the Criminal Court on a felony charge. The Criminal Court judge released him on probation, having no suspicion of the dangerous character of the boy. The fact that records are made, in many instances, before the crime, the findings are free from the suspicion ot having been made to meet the emergencies of a particular case.

On September 30 last, a Greek shot two officers and felled another worker with a vicious blow on the head with a coffee pot, at the Congress Hotel in Chicago. The officers came to the Municipal Court Laboratory and found that he had been examined over a year previously and that his deportation to Greece had been recommended, as he was suffering from dementia praecox. The recommendation is now being carried out after the damage is done.

A certain woman came up for trial in the Morals Court. She had served 57 sentences in the bridewell, to say nothing of the many times she had been arrested and discharged. This woman had been suffering all these years from dementia praecox paranoides. She was committed from our court to the insane asylum, where she will get more appropriate care and treatment than in the bridewell. But for the laboratory this woman would be continuing to go back and forth to prison to the end of the chapter.

One day a man came up for trial in the Domestic Relations Court for failure to support a wife and five children. He had been arrested eighteen times and sentenced to the bridewell for the same offense more than a half dozen times. On this occasion he was sent to the laboratory and found to be a Cretin 10 3/5 years old. His wife was a Cretin 10 2/5 years old mentally. The five children were Cretins and all dwarfed. The children were put on thyroid donated by Armour & Co. The little girl especially is becoming more intelligent. Think of a court being engaged in this sort of business! This same man came up again, after he had been in the laboratory, before another branch court, the judge of which did not utilize the laboratory. He was again sentenced to the bridewell. The director of the laboratory got him out for Christmas.

One more illustration: A robbery occurred about three weeks ago, participated in by four men. The victim escaped, but one of the robbers shot another. The three living were brought to the laboratory and all were found to be feeble-minded. The one who did the shooting was nearly 11 years old mentally with dementia praecox grafted upon feeble-mindedness. The social worker for the Jewish Charities, who had seen many cases in the laboratory, on hearing that the youth who had done the killing was in the Boys' Court ante-room with fifteen or twenty other boys, stepped in the room and picked out the one who did the shooting. He had the characteristic blank stare of the Katatonic dementia praecox, by which she identified him as dangerous. This case illustrates that the dangerous type of defective can be identified before he commits the crime instead of afterwards.

Here then is indicated the importance of identifying the mental defective in the public schools. The pupils of all schools should be gone over carefully by trained alienists and those behind grade for age more than three years should receive special attention. The defectives should be identified and protected so that they would not come in conflict with the law. Not long ago I visited the room for defective children in one of the public schools. The teacher who had worked patiently to teach her backward pupils said to me:

> "I understand their limitations. I worry nightly of what will become of these children when they leave my care. I fear their limitations will not be understood and that they will be sentenced to jail for crime. I would rest easier if I knew that they would be transferred from this school room to a farm colony, where they would be protected."

What then is the promise of the future? The feeble-minded situation as a whole is a hopeless one. Our only present methods of handling this situation are isolation and sterilization, since we realize more and more daily that the vast majority of these cases are of hereditary nature. However, the possible regeneration deserves some study for its possibilities, especially since, at the present time, the problem of isolating and controlling our large feeble-minded and psychopathic population is so gigantic. As for the treatment of the defective delinquents who get into the courts, the farm colony offers the one solution. The by-product of the manufacturing world has become almost an industry of itself, and this human by-product of the industrial and commercial world can in its turn be utilized to a very high extent in such colonies. The psychopath and dementia praecox case should be recognized at the earliest possible moment. The psychopath, the praecox case, when taken in the early years and given the proper training can undoubtedly be helped. The feeble-minded, especially the higher grades, which are more or less difficult to recognize in the early years, except by the expert, should be sorted out and new methods of training evolved.

The courts of our large cities must meet the responsibilities thrown upon them by the discoveries in science by instituting psychopathic laboratories, so that the criminal defective may be identified. If followed by legislation permitting the segregation of the defective classes who need such care, we shall have made a substantial advance in controlling crime.

It will thus be seen that the findings of the laboratory are full of significance for neurology, psychiatry, psychology, ethics, and especially for criminology. The objective view of crime has heretofore prevailed in the United States; the laboratory emphasizes the personal side of the criminal and the subjective side of the crime. The slight advance made in the battle for the suppression of crime has been due to the fact that we have relied upon legislation prescribing penalties instead of doing what we should long ago have attempted—study the individual himself who commits crime. We have laid too great importance on the environmental factors and paid too little attention to the problem of heredity.

Where heredity plays a part as it does with the feeble-minded, insanities and psychopathic, the laws of eugenics must be invoked. Bad heredity creates a bad environment immediately, but it takes bad environment ages to create a bad heredity, if it does at all. After a generation or two of combatting crime, insanity and feeble-mindedness along these new lines, we shall find that these defective stocks will gradually disappear. The battle on mental deficiency and crime is as important as any the nation will wage.

In order to win the war against crime and mental deficiency, however, we must develop medical men who can lead. Large cities of the country, which are also medical centers, should lead the way in developing great teaching centers from which other cities might draw its experts. Here then is the opportunity and the duty of the medical profession, and of psychopathologists.

It is to be hoped that the federal government will do something in regard to the scientific study of unfortunates, especially the criminal classes. A bill has been introduced into Congress—Senate No. 4990 and House No. 8820—but Congress so far has been indifferent toward its passage. It carries a small budget of about $5,000. When it is considered that the burden of crime and mental disease runs into many millions of dollars, when the whole nation is considered and that defectives are coming in with immigration, this paltry proposal discredits our intelligence. Besides conditions in Europe are such that a specal duty falls on us to carry on scientific research.

Prof. Svante Auhrenius, Director of the Nobel Institute, Stockholm, in acknowledging the receipt of the annual report of the Psychopathic Laboratory, said:

> "I am very glad to see that the U. S. A. is proceeding rapidly on the rational and naturalistic line of jurisdiction instead of the old scholastic and formalistic which was regarded as the highest wisdom fifty years ago. I fear the U. S. A. will make such rapid progress in all branches of practical application of scientific methods that Europe will have been left in a great distance after this deplorable and cruel war and before the following time of depression has been overcome."

ALBANY HOSPITAL.

Fifteenth Report of Pavilion F, Department for Mental Diseases, for the Year Ending September 30, 1917.

By J. MONTGOMERY MOSHER, M. D.,

Attending Specialist in Mental Diseases.

To the Board of Governors:

I have the honor to present the fifteenth report of Pavilion F, for the year ending September 30, 1917.

There remained in the Pavilion on October 1, 1916, twenty-two patients—fourteen men and eight women. There have been admitted two hundred and sixty-four men and one hundred and seventy-one women. The whole number of patients under treatment was, therefore, four hundred and fifty-nine.

There have been discharged four hundred and thirty-four patients—two hundred and sixty-nine men and one hundred and sixty-five women, and there remained in the Pavilion at the end of the year, eleven men and fourteen women.

The following tables show the forms of disease and the results of treatment for the year, and since the opening of the Pavilion:

TABLE I.—Showing the Forms of Disease and the Results of Treatment for the Year Ending September 30, 1917.

FORM OF DISEASE	Recovered		Improved		Unimproved		Died		Remaining		Total		Total
	M	W	M	W	M	W	M	W	M	W	M	W	
Acute delirium	3	...	1	2	...	...	...	2	1	3	5	7	12
Confusional insanity	1	1	4	7	6	14	...	...	1	2	12	24	36
Melancholia	1	1	6	11	7	17	...	1	1	2	15	32	47
Mania	...	1	...	4	5	6	...	...	...	2	5	13	18
Primary dementia	2	1	3	5	6	5	...	...	1	...	12	11	23
Recurrent insanity	...	...	1	...	2	4	...	...	...	...	3	4	7
Chr. delus. insanity	...	...	1	...	4	9	...	...	1	...	6	9	15
General paralysis	...	...	5	...	17	3	1	...	1	...	24	3	27
Terminal dementia	...	...	6	2	9	13	1	...	3	2	19	17	36
Idiocy and Imbecility	...	...	1	1	5	4	...	...	...	...	6	5	11
Alcoholic delirium	20	1	5	1	1	...	2	...	...	...	28	2	30
Alcoholism	...	...	68	11	2	1	...	...	1	...	71	12	83
Drug addiction	...	...	9	8	2	...	...	...	...	1	11	9	20
Ptomaine poisoning	1	...	...	...	...	...	...	...	...	...	1	...	1
Hypochondriasis	...	...	2	...	1	...	...	...	...	...	3	...	3
Epilepsy	...	...	3	4	2	3	...	...	...	...	5	7	12
Hysteria	...	...	1	11	...	1	...	...	...	...	1	12	13
Organic brain disease	...	...	1	1	5	...	4	...	...	...	10	1	11
Cerebral concussion	1	...	...	...	...	...	...	...	...	...	1	...	1
Locomotor ataxia	...	...	2	...	5	1	...	1	...	...	7	2	9
Meningitis	...	...	...	...	...	...	...	1	...	...	...	1	1
Chorea minor	...	1	...	...	1	...	...	...	...	...	1	1	2
Tuberculosis	...	...	3	...	...	...	5	...	1	...	9	...	9
Pneumonia	3	...	...	...	...	...	13	...	...	...	16	...	16
Organic heart disease	...	...	...	...	...	...	...	...	...	1	...	1	1
Paralysis agitans	...	...	...	...	...	...	1	...	...	...	1	...	1
Myelitis	...	...	...	...	...	...	...	...	...	1	...	1	1
Nephritis	...	...	1	1	...	...	2	...	...	...	3	1	4
Carcinoma	...	...	...	...	...	...	...	1	...	...	...	1	1
Septicaemia	...	...	...	...	...	...	1	...	...	...	1	...	1
Eclampsia	...	...	...	1	...	...	...	...	...	...	...	1	1
No diagnosis	...	...	...	...	...	...	...	...	...	...	4	2	6
Totals	32	6	123	70	80	81	30	6	11	14	280	179	459

TABLE II.—SHOWING THE FORMS OF DISEASE AND THE RESULTS OF TREATMENT SINCE THE OPENING OF THE PAVILION, FEBRUARY 18, 1902.

FORM OF DISEASE	Recovered		Improved		Unimproved		Died		Remaining		Total		Total
	M	W	M	W	M	W	M	W	M	W	M	W	
Acute delirium	49	62	22	30	7	22	16	17	1	3	95	134	229
Confusional insanity	17	15	52	64	54	97	5	6	1	2	129	184	313
Melancholia	35	53	70	151	80	152	4	14	1	2	190	372	562
Mania	10	19	19	42	44	55	1	...	...	2	74	118	192
Primary dementia	8	9	42	29	77	47	1	...	1	...	129	85	214
Recurrent insanity	1	...	16	28	20	31	...	...	...	...	37	59	96
Chr. delus. insanity	...	...	4	7	60	65	...	1	1	...	65	73	138
General paralysis	...	...	15	1	84	15	5	...	1	...	105	16	121
Terminal dementia	...	...	58	44	180	151	41	26	3	2	282	223	505
Idiocy and Imbecility	...	...	26	17	55	49	1	...	...	...	82	66	148
Alcoholic delirium	320	19	45	8	6	2	41	2	...	...	412	31	443
Alcoholism	20	5	448	58	35	10	4	...	1	...	508	73	581
Drug addiction	18	13	52	43	11	6	3	5	...	1	84	68	152
Ptomaine poisoning	2	2	...	...	...	...	...	...	...	...	2	2	4
Nephritis	...	...	3	2	2	1	14	4	...	...	19	7	26
Eclampsia	...	1	2	1	...	1	...	1	...	...	2	4	6
Epilepsy	1	...	28	12	28	16	1	...	...	...	58	28	86
Neurasthenia	4	2	27	23	8	15	...	...	...	...	39	40	79
Hysteria	4	14	3	46	1	10	...	...	...	...	8	70	78
Chorea minor	1	2	1	1	2	1	...	...	...	...	4	4	8
Exophthalmic goitre	...	...	...	1	...	...	...	...	...	...	...	1	1
Tic douloureux	...	...	...	1	...	...	...	...	...	...	...	1	1
Hypochondriasis	1	...	18	...	7	...	1	...	...	...	27	...	27
Organic brain disease	...	...	18	11	31	7	20	11	...	...	69	29	98
Cerebral concussion	9	1	4	...	1	...	...	...	...	...	14	1	15
Oedema of the brain	...	...	...	...	1	...	1	...	...	...	2	...	2
Locomotor ataxia	...	...	5	3	6	2	...	2	...	...	11	7	18
Myelitis	...	...	...	...	1	1	...	2	...	1	1	4	5
Arthritis deformans	...	...	...	...	...	1	...	...	...	...	...	1	1
Meningitis	1	...	1	2	...	1	10	3	...	...	12	6	18
Multiple neuritis	...	...	1	...	...	1	...	...	...	...	1	1	2
Paralysis agitans	...	...	...	...	2	1	3	...	...	...	5	1	6
Hydrophobia	...	...	...	...	...	...	1	...	...	...	1	...	1
Tetanus	...	...	...	...	...	...	1	...	...	...	1	...	1
Tuberculosis	...	...	8	...	3	1	31	5	1	...	43	6	49
Typhoid fever	3	1	...	...	...	...	...	...	...	...	3	1	4
Liver disease	...	3	...	...	...	...	2	1	...	...	2	4	6
Pneumonia	6	...	...	...	...	...	25	3	...	...	31	3	34
Heart disease	...	...	4	1	2	...	8	...	...	1	14	2	16
Pernicious anaemia	...	...	...	1	...	...	...	1	...	...	...	2	2
Chlorosis	...	...	...	...	...	...	...	1	...	...	...	1	1
Septicaemia	...	...	...	...	...	...	2	1	...	...	2	1	3
Gastro-enteritis	...	...	...	...	...	...	1	...	...	...	1	...	1
Fracture of skull	...	...	...	1	2	...	5	1	...	...	7	2	9
Multiple fibromatosis	...	...	...	...	...	...	...	1	...	...	...	1	1
Carcinoma	...	...	...	...	3	...	...	1	...	...	3	1	4
Strangulated hernia	...	...	...	...	...	...	1	...	...	...	1	...	1
Pleurisy	...	...	1	...	...	...	...	1	...	...	1	1	2
Malingering	...	...	...	...	1	...	...	...	...	...	1	...	1
Insolation	1	...	...	...	...	...	...	...	...	...	1	...	1
No diagnosis	...	...	...	...	...	...	...	...	...	...	31	20	51
Totals	511	221	993	628	814	761	249	110	11	14	2609	1754	4363

A study of the patients, shown superficially in the tables, is important in its demonstration of the frequent occurrence of mental symptoms in the course of general diseases, for relatively few come within a strict interpretation of the term "insanity." This arises in part from the accessibility of the Pavilion to the other wards of the hospital, to other hospitals in the vicinity and to the community at large. It is found much more convenient and effective to place the patient who is in a state of delirium or shock from some fever or accident in a ward equipped for the emergencies of mental manifestations, than to attempt treatment under the disadvantages of an extemporized and incomplete service at home. This liberal interpretation of the causes of mental disorder does much to obliterate any definite line of distinction of insanity, and leads to a more generous conception of the status of its victims. There is undoubtedly a class of individuals equipped with structurally defective brains, not susceptible of development beyond their natural capacity. In the lowest grades there is no mind at all, and from this hopeless condition of idiocy to the higher degrees of cranks and paranoiacs, all stages of inefficiency are met. The accompanying inability to meet the requirements of society produces a group of "aliens," who must be sequestrated for safety and for the common good. Their tendencies are often criminal, and their lower state of intelligence and of morals is frequently associated with peculiar and sometimes repulsive physical characteristics, the outward and visible signs of the immature and degraded faculties of thought within. There is little hope of improvement of such conditions and any enthusiasm for the rehabilitation or reconstruction must be left to the social reformer and not to the physician who cannot abandon his faith in anatomical facts.

The problems of penology are not within the province of this report, but statement of the proposition is rhetorically justified that the way may be cleared for the subject which more nearly concerns our work. We cannot too often or too strongly emphasize its purely medical character, and the futility of any endeavor to creat intelligence where none existed before. The hospital deals with diseases only, and mental disease implies the existence of mind which has become disordered through some pathological process. Here restoration may be sought, and no means known to science should be neglected in the seeking. The simple and the vicious having been eliminated from consideration, the mental patient may be further accredited as entirely innocent of wrong-doing, and in fact, the great number become such from excess of virtues, and disregard or ignorance of the laws of health. Too often "overwork" and "worry," are the assigned causes of sickness, and the sad tale of privation, tribulation and misfortune figures so prominently as to become an almost stereotyped history of the attack.

The causes and the symptoms are characteristic in each of the three periods of life. In youth the emotional instability is not only the origin of the disease but the explanation of its manifestations. The phenomenal activity of the developmental years, the quick impulse to act upon the thought, disregard of consequences, uncontrolled expenditure of energy, contempt of convention, "sublime audacity of faith," which would remove mountains,

> "And with ambitious feet, secure and proud,
> Ascend the ladder leaning on the cloud,"

excite the wonder and amazement of all who observe the attributes of fickle and wayward youth. "No danger daunts it, and no foe withstands." And when the crash comes inconsistency of effort with purpose is revealed in exaggerted form: loss of co-operation between the will to act and the power to accomplish. The underlying, essential state is one of inertia, lasting days, weeks or months. There is little or no evidence that the patient gives attention to his surroundings, and yet, after recovery, it is found that observation and memory have been complete. In the apparently lethargic period sudden, unexpected, purposeless and unpremeditated outbreaks of violence or passion occur. Often a visible effort at reasonable action is shown, and the result is perverted, misdirected, ineffective and apparently contrary to the desire of the patient. The conclusion is inevitable that the disarrangement of the cerebral mechanism prevents the correct distribution and direction of the currents of nervous energy; and it is equally certain, and too great emphasis cannot be laid upon this, that the mind is not destroyed, but temporarily out of adjustment. The patient is conscious of his surroundings and of the world without, more or less anxious to express his desires and to preserve his associations, without the power to free himself from his isolation. The medium of communication between his thoughts and his environment is disorganized and ineffective, and he is protected only by those who may interpret the wishes he endeavors so vainly to express.

In the words of Peter Grimm who is depicted on the stage in the attempt to convey messages from the next world to this, he "cannot send them across." This disorganization of the mental mechanism is functional and is due to the overuse of delicate tissues; it means exhaustion and is susceptible of correction. For the student or the clerk or the enterprising business man, whose ambition has overmastered his discretion, restoration follows a prolonged period of rest, and recovery is to be expected. The custom of medical practice to reduce all combinations of morbid symptoms to a phrase, and to sum up in a diagnostic word a complicated pathological condition is not always serviceable in mental pathology, where the whole existence of the patient, his personality, character and temperament are involved, and the attempt to so designate each case has often proved embarrassing. A German alienist, Professor Kraepelin, some years ago, applied to these adolescent cases the term "demetia praecox," and stamped them with incurability. The value of this conception lay in the world-wide attention it attracted which directed scientific thought to the adolescents as a class. The results, however, have not sustained the Teutonic dictum.

In Professor Kraepelin's clinic at Munich, the statistics from year to year show a decreasing number of cases and the rather lame excuse was offered that so many recoveries had taken place that the diagnosis was revised. This was in spite of the fact that the symptoms upon which the diagnosis was based, remained constant. In the meanwhile the proselytes to the Munich idea are without the faith of their adoption.

Thus through a study of years and the observation of a great number of cases there has come not only a more substantial knowledge of the significance of these attacks, but a fairly clear conception of their origin and of the means of relief. There are also suggestions for prevention, and the restored patient returns to his normal life with a better idea of his resources and of conduct which will insure against repetition. This educational value of the hospital experience is even more eagerly grasped by the patients of more advanced years. The maladies of middle life or maturity are represented by errors of judgment. The age is that of discrimination and reason, and exhaustion of the brain is followed by delusions of a depressing nature. The inability to concentrate attention, resulting from fatigue, diminishes or destroys the executive capacity, and the bewildered and discouraged merchant or artificer, as his grasp weakens, not unnaturally anticipates disaster, even though he appreciates its cause. He is particularly conscious of mental failure, appearing to him as a vague and threatening doom. From his apprehensions arises a series of suspicions easily elaborated into delusions, and, after a period of forced self-control, the crisis is reached in a sudden explosion, in which despair, anguish, fear and other exaggerated forms of sentiment are mingled with morbid fancies, the whole presenting a state of confusion not infrequently attaining the violence of delirium. Or in a more gradually developing process profound melancholia with suicidal impulses shows none the less forcibly how great the tension to which the mind has been subjected. Very often, perhaps usually, disaster may be attributed to aspirations inviting to success and power beyond the personal ability; sometimes, however, compassion is aroused for the misfortunes and trials which baffle endeavor and defeat the hopeless task. Many a man is forced

> To bend down to the work, to bare the breast,
> And struggle, feet and hands, with enemies;
> To buffet and to battle with hard men,
> With men of selfishness and violence:
> To watch by day and calculate by night,
> To plot and think of plots, and through a land
> Ambushed with guile, and with strong foes beset,
> To win with art safe wisdom's peaceful way.

Here the hospital performs its temporary service, and, as reason gradually resumes its throne, assumes its educational function, unfolds and demonstrates the errors contributing to the disaster and sends out the patient with renewed hope and better knowledge of the limitations within which his conduct must be controlled.

It may be seen at once that these calamities of life go far beyond the resources of any simple clinical terminology; or of faith in the pharmacopoeia and the power of drugs. The need of the patient is for sympathy and for understanding of the forces, which, resist them as he may, carry him, uncontrolled and uncontrollable, far beyond his purpose. This is the demand to which the hospital attempts to respond, and when there are errors, consoles itself with the reflection that they are those of judgment and not of design, for the problems are difficult and sometimes insoluble. Fifteen years of effort have given reasonable return, and too much praise cannot be given to the nurses, who are the strength of the service, and to the hospital organization which endeavors to respond to high ideals of medical practice and faith.

We turn from this legitimate and charitable field of duty to the consideration of another class of patients: the incorrigibles. In the distressing struggle for existence, bringing so much suffering in its train, it appears incredible that human strength may be voluntarily dissipated and efficiency destroyed. But the alcoholics and users of drugs persist in their demoralizing practices. The effects of alcohol are quickly overcome, and prostration threatening a fatal result infrequently disappears with surprising rapidity. Possibly this repeated challenge establishes confidence, and promises of abstention after critical indulgence are not kept when temptation assails the moral weakness anew. But the debauch is finally complicated by some incidental disease and all efforts are powerless. This is particularly so with pneumonia. The tabulation of pneumonia refers to cases of delirium tremens and the combination of pneumonia and alcoholism, even in a man of rugged physique, means death.

The drug addicts may be divided into two groups, those who indulge for temporary sensual gratification and excitement, and those who are incidentally led into the habit for relief of suffering. There are cases of neuralgia from various causes, of malignant disease and other ailments, in which the suffering justifies the use of opium; otherwise, life would be intolerable: in fact, suicide is recognized as a possibility in cases of tic douloureux, that frightful neuralgic condition of the face. For those who seek dissipation there is little to be done. They appear to constitute a low and vicious type. Experience has been that the vice is inherent and natural, and is not corrected by removal of the drug. Both federal and state authorities are now active in efforts at suppressing an illegal traffic, but there remains a reasonable doubt that reform of individual tendencies will follow. The cure of the morphine habit has long had medical attention, and custom has sanctioned the gradual reduction of the dose. This takes time and has caused a long, tedious and uncomfortable experience for the patient. After guarded trial in promising cases, it has been found that the drug may be discontinued at once, and opium and its alkaloids are not now given in this department unless some physical complication gives warning. For three or four days the patient from whom the drug is taken is exceedingly uncomfortable. There are active digestive disturbances, the pulse rate descends, sometimes as low as forty, and the nervous system appears entirely disorganized. There is no sleep, restlessness and motor activity are constant, and subjective sensations are said to be indescribable. After three or four days, during which the pleas for relief are almost beyond resistance, the symptoms subside, and gratitude is expressed that the severe ordeal is past, and that there is no more distress ahead. Palliative drugs are used, and the sedative hyoscin has some value. Strychnine is also given for stimulation, and otherwise an expectant attitude is taken.

Another poison whose ravages of the nervous system are subtle and destructive is that of syphilis. It has long been thought that syphilis of the brain, resulting in the disease known as general paralysis, or paresis, was necessarily fatal within a short time—two or three years. There has seemed to be a distinction between paresis and other forms of syphilitic brain disease and the existence of an unknown late product of the infection was invoked in explanation of this apparent inconsistency. The discovery of the organism of syphilis in the brains of paretics has led to revision of this theory, and it is now believed that all cases are due to this organism. Differences in the course of the disease, recoveries in some, intermissions in others, are under consideration and it is possible that histological and bacteriological research will eventually explain this phenomenon. Be that as it may, the administration of active antisyphilitic treatment in all cases is indicated, and followed occasionally by beneficial results.

It thus appears that the mental affections of youth and mature life are largely due to exhaustion of the nervous system, and that in the latter period occur conditions brought about by specific poisons, of which alcohol and drugs are voluntarily abused, and syphilis is more or less innocently acquired. Upon these various cases the work of the Pavilion is legitimately expended. There are in addition many cases of pathological old age, which may be regarded as a degenerative condition incident upon the gradual disintegration of the brain. In spite of this structural disorganization, the pathological states of old age deserve consideration, and unpleasant conditions are often relieved. This is due again to the effects of routine and the quiet regularity of hospital life, with consideration of the personal characteristics incident upon a peculiar loss of memory, and attempts to adjust the present with conditions of the past. Many cases of advanced age come to the hospital because of the want of comprehension of their condition and many return home in an improved state.

The tabulated statistics include a large number of common diseases which, on the surface, have no claim upon this department. It may be explained that in these cases there has been a mental complication of the nature of delirium or stupor or some disability or helplessness which the general wards are unprepared to meet. In this respect the Pavilion has relieved the hospital and has been able to extend the scope of its usefulness.

In conclusion, a simple classification of mental affections may be given as a summary of the demands made upon the hospital, as follows:

1. Mental disorders of adolescence, arising from exhaustion;
2. Mental disorders of maturity, arising
   (a) from exhaustion,
   (b) from intoxications;
3. Mental disorders of old age, arising from degeneration;
4. Mental disorders incidental to physical disease.

To these groups may be added that of mental defects, individuals born with limited capacity for development of whom there are, (I) idiots or imbeciles; (II) the insane, paranoiacs, or others who have failed to reach normal standards. For these there is no prospect of relief, and medical care is desirable in so far as it provides educated and intelligent custody. The last, rather anomalous group consists of those unexplainable instances of so-called recurrent insanity, in whom attacks of abnormal mental action occur at regular intervals through life. They may seek admission to this hospital, and, under its ministrations, pass through the pathological period.

Discharges

Of the four hundred and thirty-four patients discharged, thirty-eight recovered and one hundred and ninety-three were improved. The percentage of cases distinctly benefited is fifty-three. Since the opening of the Pavilion the percentage of cases discharged as recovered and improved has been fifty-four. Of the forty-three hundred and sixty-three patients admitted in fifteen years, twenty-three hundred and fifty-two patients have returned to their homes with health restored. One hundred and sixty-one patients were discharged unimproved, and thirty-six died. The causes of death were: exhaustion of alcoholism, one; tuberculosis, five; pneumonia, thirteen; organic brain disease, four; nephritis, two; meningitis, three; heart disease, one; diabetes, one; general paralysis, one; paralysis agitans, one; exhaustion, two; septicaemia, one; carcinoma, one.

Acknowledgment

It is a pleasure to record from year to year the harmonious relations existing between the hospital and the public officials of the city and county. Public patients are received under order of the Commissioner of Charities, and to the incumbent of that office, Hon. Alwin C. Quentel, and his associates we are indebted for the care and courtesy invaribly extended in solving the frequently troublesome problems of admission and discharge.

The following gifts have been received during the year: Billiard cue from Dr. G. H. Gorham, magazines from Mrs. Walter R. Marden, framed pictures from Mrs. Clark G. Richards and Mrs. William B. Jones, scrap books from Mrs. Jones, containing a fine collection of views of Albany, and subscription to McClure's Magazine, which has had the usual renewal by a friend and former patient, to all of whom thanks are given.

Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

BUREAU OF VITAL STATISTICS.

COMPILED BY WILLIAM F. FULLGRAFF, REGISTRAR.

DEATHS FOR MONTH OF SEPTEMBER, 1917.

Consumptions	25	Broncho Pneumonia	2
Typhoid Fever	1	Bright's Disease	4
Scarlet Fever	0	Apoplexy	4
Measles	0	Cancer	15
Whooping Cough	0	Accidents and Violence	15
Gripe	0	Deaths under 1 year	26
Diarrheal Diseases	13	Deaths over 70 years	31
Diphtheria and Croup	0	Death rate	17.03
Pneumonia	5	Death rate less non-residents	14.60

Deaths in Institutions.

	Non Res.	Res.		Non Res.	Res.
Albany Hospital	4	8	St. Margaret's House	3	0
Albany Hospital Camp	2	8	Infants' Home	1	0
Albany County Hospital	3	0	Home for the Aged	0	2
Federation of Labor Camp	0	1	Hospital for Incurables.	2	3
Homeopathic Hospital	2	10	Public Places	3	7
St. Peter's Hospital	4	7		24	46

Births	195	Still births	4

BUREAU OF COMMUNICABLE DISEASE.

Cases reported during September, 1917.

Typhoid Fever	13	Whooping-cough	6
Scarlet Fever	0	Tuberculosis	25
Diphtheria and Croup	1	Anterior Poliomyelitis	1
Chickenpox	4		
Smallpox	0	Total	57
Measles	7		

Number of days quarantine for diphtheria:
Longest........ 11 Shortest........ 11 Average...... 11
Fumigations: Houses........ 21 Rooms........ 124
Milk bottles disinfected 6

Communicable Disease in Relation to Schools.

St. Joseph's Academy 1

Tuberculosis.

Nurses' Report.

Living cases on record September 1, 1917		789
Cases reported:		
By card	21	
Dead cases by certificate	4	25
		814
Dead cases previously reported	23	
Dead cases not previously reported	4	
Removed	6	33
Living cases on record Oct. 1, 1917		781

Total tuberculosis death certificates		27
Non-resident deaths:		
Albany Hospital Camp	2	
City at large	2	4
Resident deaths		23

Visits to Cases of Communicable Disease.

Tuberculosis	2
Miscellaneous	43
Visits to physicians	4

Bender Laboratory Report.

Diphtheria.

Initial positive	1	Suspicious	2
Initial negative	167	No growth	2
Release positive	0		
Release negative	4	Total	176

Sputum for Tuberculosis.

Positive	23	Negative	77
			100

Widals.

Positive	7	Wassermann tests	116
Negative	13	Milk analyses	129
Suspicious	3	Water analysis	1
Total	23		

Bureau of Nuisances.

Complaints made	40	Reinspections	44
Inspections	33	Plumbing	11
Plumbing	10	Sanitary	23
Sanitary	23		

Hearings.

Cases heard before health officer	2

Class of Cases.

Smoke	1	Privy vault	1

Disposition of Cases.

Abated	2

Bureau of Plumbing, Drainage and Ventilation.

Inspections	152	New buildings	15
Old houses	66	Houses tested	18
New houses	86	Water tests	18
Permits issued	82	Houses examined	12
Plumbing	66	Re-examined	65
Building	16	Valid	8
Plans submitted	22	Without cause	4
Old buildings	7		

Dead Animal Report.

Horses removed	21	Cats removed	313
Dogs removed	177	Total	511

Bureau of Markets and Milk.

Public market inspections	19	Milk depots inspected	12
Market inspections	18	Stores inspected	64
Fish market inspections	2	Milk houses inspected	43
Lactometer readings	163	Milk cans inspected	2246
Temperature readings	163	Dairies inspected	43
Fat tests	77	Cows examined	677
Sediment tests	56	Cows quarantined	4
Chemical tests	43	Complaints investigated	2
Bacterial counts	77		

MISCELLANEOUS.

Cards posted for contagious disease	7
Cards removed	7
Notices served on schools	56
Notices served on stores and factories	3
Postal card returns sent to doctors	7
Postal card returns received from doctors	7
Inspections and reinspections	12
Employment certificates issued to children	22
Vaccinations	251
Cases assigned to health physicians	45
Calls made	71
Garbage collected from 1st District	bbls. 593
Garbage collected from 2d District	bbls. 605
Garbage collected from 3d District	bbls. 648

Medical News

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR JUNE-SEPTEMBER, 1917.—Number of new cases, 491. Classified as follows: Dispensary patients receiving home care, 11; district cases reported by health physicians, 11; charity cases reported by other physicians, 91; moderate income patients, 226; metropolitan patients, 152; old cases still under treatment, 39; total number of cases under nursing care during months, 530. Classification of diseases for the new cases: Medical, 95; surgical, 32; gynecological, 9; obstetrical under professional care—mothers 172, infants 156; eye and ear, 6; skin, 1; throat and nose, 0; dental, 0; infectious diseases in the medical list, 18; surgical list, 2. Disposition: Removed to hospitals, 5; deaths, 18; discharged cured, 354; improved, 68; unimproved, 52; number of patients still remaining under care, 33.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 4; students in attendance, 1; nurses in attendance, 5; patients carried over from May, 1; new patients during month, 12; patients discharged, 13; visits by head obstetrician, 0; by attending obstetrician, 79; by students, 2; by nurses, 109. Total number of visits for this department, 190.

Visits of Guild Nurses (all departments).—Number of visits with nursing treatment, 2,999; for professional supervision of convalescents, 1,106; total number of visits, 4,105; visits to pay cases, 2,429; to charity cases, 570; to unrecorded cases, 1,116; cases reported to the Guild by 3 health physicians, and 94 other physicians; graduate nurses, 3; pupil nurses, 2 on duty; certified nurses, 2; substitute nurses, 2.

Dispensary Report.—Number of clinics held, 313; new patients, 391; old patients, 1,357; total number of patients treated during months, 1,748.

Classification of clinics held: Surgical, 47; nose and throat, 30; eye and ear, 61; skin and genito-urinary, 24; medical, 34; prenatal, 10; lung, 22; dental, 0; nervous, 15; stomach, 9; children, 31; gynecological, 30.

NEW YORK SKIN AND CANCER HOSPITAL.—The Governors of the New York Skin and Cancer Hospital announce that Dr. L. Duncan Bulkley, assisted by the attending staff, will give the nineteenth series of clinical lectures on diseases of the skin in the Out-Patient Hall of the Hospital, on Wednesday afternoons, beginning November 7, 1917, at 4:15 o'clock. The lectures will be free to the medical profession, on the presentation of their professional cards.

MEDICAL REVIEW OF REVIEWS.—At about the time that the *Medical Review of Reviews* was founded, Professor Dillon Brown, of New York, established a semi-monthly journal devoted to the diseases of children, called *Pediatrics*. The opening article was by A. Jacobi and the leading physicians of the city, among them, J. Lewis Smith, Reginald H. Sayre, and William H. Park, contributed to its pages. Latterly it has been edited by William Edward Fitch, but Dr. Fitch has recently been appointed a Major in the United States Army.

Pediatrics will no longer appear as a separate publication, but has been incorporated with the *Medical Review of Reviews*. Beginning with January, however, the *Medical Review of Reviews* will contain a special department devoted to Pediatrics. This feature is but one of the improvements scheduled for the coming year. Important Symposia are now in progress, the Editor will contribute a second series of Pathfinders in Medicine, a Staff of Associate Editors is being formed, and thus the *Medical Review of Reviews,* in entering upon its twenty-fourth annual volume, promises to be more valuable to the profession than ever before.

"WELL RECOGNIZED MEDICAL SCHOOLS."—The Surgeon-General of the United States has announced that a medical school recognized generally by state examining boards will be considered as a well recognized medical school, which is one legally authorized to confer the degree of Doctor of Medicine. and is recognized by at least fifty per cent of the states of the Union by their licensing boards for the practice of medicine, and an institution which gives the first two years of the medical course will be recognized if its students after completion of these two years are eligible to admission to the third year of a well recognized medical school. Students of these schools will be recognized from exemption for draft, and this ruling applies to the students of the Albany Medical College.

THE SENIOR MILITARY MEDICAL ASSOCIATION.—The purpose of the Association is to serve the government by performing such medical work as the members are capable of, especially at or near the member's residence.

Its members mostly can do only part-time work, but some are able to go from home and do full-time service. The arrangement will probably be a contract with the government to do special service, with a military grading. The pay will be according to the grading and work performed.

It is felt that the members of the association can act as consultants in general and special physical conditions of recruits and conscripted men; also, in matters of sanitation and hygiene, and in making general physical examinations and mental and special examinations and in working in local hospitals or established places or cantonments where the sick or injured men may be sent; or those where fitness may be brought about in men medically rejected from admission to the service; also in performing any other work they may be capable of by the direction of the government.

No assurance can at present be given as to when service may be requested. Men may apply for admission to the S. M. M. A. by filling out the blank card which will be supplied upon request to Dr. Alexis Dupont Smith, and returning it properly filled out and one dollar, the annual dues made necessary to cover postage and incidental expenses.

For the present, residential limit of eligibility for membership includes Pennsylvania, New Jersey, Delaware, and Maryland. When points remote from Philadelphia have organized units or branches of the S. M. M. A., membership may be transferred.

The membership now numbers several hundred, whose loyalty has impelled them to offer such service as they can perform for their country, now in the time of its need.

MEDICAL SERVICE OF THE ARMY AND NAVY.—Dr. ARTHUR KRIDA (A. M. C. '11), of Schenectady, N. Y., has been commissioned as first lieutenant in the Medical Reserve Corps.

—Dr. ANDREW MACFARLANE (A. M. C. '87), of Albany, N. Y., with rank of major, has been ordered for duty as chief of the medical service at Camp Funston, Kan.

—Dr. MINAS S. GREGORY (A. M. C. '98), who has been commissioned a major in the Medical Reserve Corps, has been ordered to Fort Niagara, N. Y., for the purpose of making examinations of student officers in psychiatry, and at the completion of this duty to return to his station at Plattsburgh Barracks, N. Y.

—Dr. WARD W. MILLIAS (A. M. C. '12), of Rome, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered to the Neurological Institution in New York City for a course in the specialty of nervous diseases.

—Dr. JAMES H. REED (A. M. C. '67), of Saugerties, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered for duty at Fort Benjamin Harrison, Indianapolis, Ind.

—Dr. ROY J. MARSHALL (A. M. C. '10) of Rome, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered for duty at Fort Benjamin Harrison, Indianapolis, Ind.

—Dr. Byron G. Shults (A. M. C. '15), of Johnstown, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered for instruction to Fort Benjamin Harrison, Indianapolis, Ind.

—Dr. Arthur H. Wheeler (A. M. C. '12), of Troy, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered for instruction to Fort Benjamin Harrison, Indianapolis, Ind.

—Dr. John P. Faber (A. M. C. '05), of Schenectady, N. Y., has received his commission as captain in the Medical Reserve Corps, and has been ordered for duty as tuberculosis specialist and assistant to the Army Medical Staff at Camp Lee, Petersburg, Va.

—Dr. Nelson K. Fromm (A. M. C. '08), of Albany, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered from Walter Reed General Hospital for duty as tuberculosis specialist and assistant to the Army Medical Staff at Camp Custer, Battle Creek, Mich.

—Dr. John L. Hemstead (A. M. C. '16), of Waterford, N. Y., has been commissioned as lieutenant in the Medical Reserve Corps and is stationed at Fort Slocum, N. Y. Dr. Hemstead has written regarding his work which consists, at the present time, in the examination of recruits, the number examined being about two hundred a day, and outgoing troops are examined and sent to various posts throughout the country. Dr. Hemstead is now engaged in cardiac examinations, men being assigned to different portions of the examination. The hospital contains two hundred beds and a laboratory, and it is expected that Dr. Hemstead will be placed in charge of the laboratory.

—Dr. Garrett M. Clowe (A. M. C. '13), of Schenectady, N. Y., has received his commission in the Medical Reserve Corps, and has been ordered for duty to Fairfield, O.

—Dr. John D. Gulick (A. M. C. '12), of Schenectady, N. Y., has received his commission as captain in the Medical Reserve Corps, and has been ordered for duty to Fort Ethan Allen, Vt.

—Dr. John F. Southwell (A. M. C. '10), of Albany, N. Y., who has received his commission as captain in the Medical Reserve Corps, has been ordered to the Albany Hospital and Medical College for the purpose of recruiting Base Hospital No. 33.

—Dr. George P. Coopernail (A. M. C. '00), of Bedford, N. Y., who has received his commission as captain in the Medical Reserve Corps, has been ordered for duty to Fort Benjamin Harrison, Indianapolis, Ind.

—Dr. Jesse M. W. Scott (A. M. C. '96), of Schenectady, N. Y., has received his commission as captain in the Medical Reserve Corps, and has been ordered for duty to Petersburg, Va.

—Dr. Garrett W. Timmers (A. M. C. '97), of Castleton, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered for duty to Fort Ethan Allen, Vt.

—Dr. Clarence L. Sicard (A. M. C. '01), of Amsterdam, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered for duty to Little Rock, Ark.

—Dr. Edward L. Hanes (A. M. C. '99), of Rochester, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered to Washington Barracks, D. C., to make examinations in psychiatry.

—Dr. Ray M. Eaton (A. M. C. '11), of North Adams, Mass., who has received his commission as lieutenant in the Medical Reserve Corps, has arrived in England on his way to France where he will take charge of one of the field hospitals behind the battle line.

—Dr. Thomas M. Holmes (A. M. C. '09), of Delmar, N. Y., who left for France in July with commission as first lieutenant in the Medical Reserve Corps, has been transferred to the 142d British Field Ambulance Co., and is now chief surgeon of the unit.

—Dr. John E. Burke (A. M. C. '15), of Schenectady, N. Y., has received his commission as first lieutenant in the Medical Reserve Corps,

—Dr. Clarence F. Graham, instructor in the Albany Medical College, has received his commission as first lieutenant in the Medical Reserve Corps.

—Dr. Charles A. Perry (A. M. C. '14), of West Leyden, N. Y., has received his commission as first lieutenant in the Medical Reserve Corps.

—Dr. James I. Schoonmaker (A. M. C. '14), of West Coxsackie, N. Y., has received his commission as first lieutenant in the Medical Reserve Corps.

—Dr. John J. Beard (A. M. C. '97), of Cobleskill, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been assigned to duty as assistant to the chief of the medical service at Camp Funston, Fort Riley, Kansas.

—Dr. Gilbert W. Crissey (A. M. C. '99), of Mechanicville, N. Y., has received his commission as captain in the Medical Reserve Corps, and has been ordered for duty as a member of the board of medical officers for tuberculosis examination to Camp Logan, Houston, Texas.

—Dr. Theodore S. West (A. M. C. '16), who recently completed his interneship in the Albany Hospital, has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered to Cornell Medical College, New York City, for a course of instruction in military roentgenology.

—Dr. Conrad A. Rissberger (A. M. C. '13), of Albany, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered to Fort Oglethorpe, Ga.

—Dr. Emanuel M. Freund (A. M. C. '16), of Albany, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered for duty with the 302d Stevedore Regiment at Newport News, Va.

—Dr. Thomas W. Salmon (A. M. C. '99), major, has been ordered to New York City and other towns to inspect hospital sites, thereafter to report in person to the General Surgeon of the Army at Washington, D. C.

—Dr. John L. Edwards (A. M. C. '12), of Hudson, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered for three weeks' intensive training to Washington University, St. Louis, Mo.

—Dr. Lawrence J. Early (A. M. C. '15), of Albany, N. Y., first lieutenant in the Medical Reserve Corps, has sailed for England.

—Dr. Abraham M. Rabiner (A. M. C. '16), lieutenant, after ten weeks' military training at Fort Benjamin Harrison, has been ordered to Ann Arbor, Mich., for intensive training in neuro-psychiatry. Dr. Rabiner, while an interne at the Albany Hospital, showed a great deal of interest in this subject when on duty in Pavilion F. The work at Ann Arbor is directed by Dr. Barrett at the State Psychopathic Hospital. The men in this section also receive instruction at the University Hospital by Dr. Camp in neuro-pathology and neurology, and from Dr. Canfield in neuro-otology. They are also receiving instruction in the various methods used for the determination of mental deficiency.

Personals.—Dr. Edgar A. Vander Veer (A. M. C. '98), presented a communication on "Carcinoma in the Stump of the Cervix Following Suprapubic Hysterectomy" at the Thirtieth Annual Meeting of the American Association of Obstetricians and Gynecologists, held at Newark, N. J., September 17, 18 and 19, 1917.

—Dr. Douglas C. Moriarta (A. M. C. '85), of Saratoga Springs, N. Y., presented a communication entitled "Radium; Further Clinical Observations," at the Thirtieth Annual Meeting of the American Association of Obstetricians and Gynecologists, held at Newark, N. J., September 17, 18 and 19, 1917.

—Dr. Meyer L. Rhein (A. M. C. '80), of New York City, presented a paper on "The Retention of Devitalized Teeth Without Danger of Focal Infection," before the Section of Stomatology at the Sixty-Eighth Annual Session of the American Medical Association, held in New York in June, 1917. Dr. Rhein's paper is published in the *Journal of the American Medical Association* of September 22, 1917.

—Dr. Arthur F. Holding (A. M. C. '01), and Dr. William Bayard Long, of New York, publish a paper on "The Truth About Radioactive Therapy in Malignant Growths" in the *Journal of the American Medical Association* of September 22, 1917. This paper was read before the Section on Pharmacology and Therapeutics at the Sixty-Eighth Annual Session of the American Medical Association held in New York in June, 1917.

—Dr. Albert Vander Veer (A. M. C. '62, of Albany, N. Y., publishes a paper entitled "Progress in Surgical Therapeusis" in the *Medical Record* of September 22, 1917. This paper was read by title at the

Eighteenth Annual Meeting of the American Therapeutic Society at New York, held June 1, 1917.

—Dr. Frank E. Deeds (A. M. C. '14) is in practice at Akron, Ohio. Dr. and Mrs. Deeds announce the birth of a daughter on September 29, 1917.

Married.—Dr. Arthur Wells Elting, Professor of Surgery in the Albany Medical College, and Mrs. Harriet Corning Rawle, of Bryn Mawr, Penn., were married on October 24, 1917. After a wedding trip in the South Dr. and Mrs. Elting will return to Albany. Dr. Elting will continue his practice and his classes in the College until the Base Hospital at Albany, of which he is the chief, with rank of major, is ordered to the front.

Died.—Dr. Thomas L. Deveny (A. M. C. '01), of Watervliet, N. Y., died at St. Peter's Hospital, Albany, October 24, 1917, as the result of an automobile accident. Dr. Deveny practiced in Watervliet after graduation. He is survived by his wife and three children.

—Dr. John L. Schoolcraft (A. M. C. '79), died at his home in Schenectady, N. Y., October 23, 1917, after an attack of cerebral hemorrhage. Dr. Schoolcraft was ill less than two days. He was sixty-three years of age. Dr. Schoolcraft was a descendant of one of the oldest families of Schenectady and has practiced in that city since his graduation. He was educated in the Schenectady schools and Union College, and was health officer in 1914 and 1915. He leaves a widow.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS.

The Fundus Oculi of Birds Especially as Viewed by the Ophthalmoscope. A Study in Comparative Anatomy and Physiology. By Casey Albert Wood, M. D. Illustrated by 145 drawings in the text; also by sixty-one colored paintings prepared for this work by Arthur W. Head, F. C. Z., London. Chicago, The Lakeside Press, 1917. Price $15.

This remarkable book is very interesting—especially, of course, to students of ophthalmology, ornithology, comparative anatomy and physiology or zoölogy.

Its vast potential value is best appreciated by an ophthalmoscopist who studies it in the light of Darwin's splendidly logical work, "The Origin of Species."

The field for investigation is enriched by the fact that the visual acuity of birds is as keen as is known to obtain among vertebrates. The author says that it is often possible to recognize a species by viewing its fundus oculi. The possible value of that fact must be great. Viewed in the light and spirit of Darwin's work, its importance bulks very large. The correspondence of the fundal features with the birds' habits, habitat, means of obtaining food, of escaping from enemies, of migration and reproduction, show how intense may be the interest of such study. As is stated by Dr. Wood, in the summary of conclusions: "In future no report upon a particular avian species can be held complete that ignores the visual apparatus and especially the appearance of the fundus oculi as shown by the ophthalmoscope."

In view of the fact that domesticated or any other than live, wild birds, just caught or winged, could not properly be used for most of the ophthalmoscopic examinations, from which the illustrations result, the amount of work involved, in the production of the pictures, was obviously of prodigious amount.

The work of the printers and binders is admirable and the book one that many a scientist will rejoice to own. C. M. CULVER.

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, etc., and other topics of interest to the student and practitioner; by leading members of the medical profession throughout the world. Edited by H. R. M. Landis, M.D. Phila., Pa. Published by J. B. Lippincott Company. Vol. I. Twenty-sixth Series, 1916.

In this volume we find a number of interesting articles presented for our consideration. The one on "Pellagra" by Beverly R. Tucker, M. D., is well illustrated and clearly defines the present status of this important disease.

Those interested in our national institutions will read with profit the article by John P. H. Murphy, M. D., entitled "The Wounded Mind," in which he describes St. Elizabeths, the Government Hospital for the Insane at Washington, D. C. It owes its inception to the efforts of Miss Dorothea Dix who had a bill introduced before Congress in 1852 for the establishment of a "Hospital for the Insane of the Army and Navy of the United States." The full-page illustrations, five in number, give one a good idea of this admirably conducted institution.

The latter portion of the volume deals with "A general review of medicine for the year 1915." Special emphasis is placed upon contagious and epidemic diseases; there is also a very readable section on Military Surgery, which is of peculiar interest at the present moment. H. D. C.

Military Medicine

MILITARY INSTRUCTION AND THE "ALBANY IDEA."

(*Concluded from October* ANNALS, *p. 500.*)

The admirable work done by the Clinical Club in Albany in military preparedness has been demonstrated by an important pamphlet recently issued. As the scheme is of such far-reaching value, it has been thought wise to reprint it in the ANNALS so that it may receive a larger circulation than the privately distributed pamphlet, and may also have permanent record.

The following named physicians are the members of the Clinical Club who have accomplished this large task: Dr. ARTHUR J. BEDELL, Dr. FREDERICK C. CONWAY, Dr. ERASTUS CORNING, Dr. JOSEPH A. COX, Dr. MALCOLM DOUGLAS, Dr. EUGENE E. HINMAN, Dr. ELLIS KELLERT, Dr. JOSEPH A. LANAHAN, Dr. JOSEPH P. O'BRIEN, Dr. DANIEL V. O'LEARY, Dr. JAMES F. ROONEY, Dr. HARRY RULISON, Dr. JAMES N. VANDER VEER.

DUTIES OF MEDICAL OFFICERS (*Continued*)

The following diseases, conditions and deformities shall cause rejection:

All forms of acute disease; contagious or communicable disease, every chronic organic disease; including rheumatism and gout; repeated attacks of acute articular and muscular rheumatism, or of sciatica; asthma, hay fever, chronic laryngitis, all forms of valvular heart disease, or of nephritis, high arterial tension, aneurism, hernia, epilepsy, mental aberration, depravity, cystitis, organic and chronic functional disease of the nervous system, marked knock-knee and bow legs, syphilis, all form of tuberculosis, chronic ulcers, deformities, and results of previous injuries of such degree as to manifestly render the recruit unfit for military duty, hydrocele, fistula in ano, the loss of a great toe, a thumb, or of any two fingers of a hand, hallux valgus, over-lapping toes of marked degree, hammer toe, severe corns or callosities, varicose veins, except that varicocele and hemorrhoids of very slight degree need not reject, prolapse of rectum, and any disfigurement or deformity constituting a well marked blemish of soldierly appearance, or local disease of deep or superficial character requiring constant attention to keep clean.

There are numerous conditions and diseases not mentioned in the foregoing, which should reject at once.

As disability occurring in the service is usually made the basis of a claim for pension, special care shall always be taken to state in the certificate on the physical examination blank form the degree of disability, to describe particularly the disability, wound or disease, the extent to which it deprives the soldier of the use of any limb or faculty, or affects his health, strength, activity, constitution or capacity to labor.

Special care shall be taken in the case of diseases or injuries liable to be feigned or purposely produced.

In the examination of certificates of disability for discharge, it is enjoined upon all concerned, to observe that there is no conflict between the statements of company commanders, medical and other officers thereon, as to whether the disability was incurred in line of duty or not in line of duty. If any discrepancy exists in this particular, every possible means shall be employed to harmonize the statements before forwarding the papers.

Whenever a patient is transferred from the care of one medical officer to another, a complete medical report of the case shall accompany him.

Enlisted men sick at recruiting stations, excepting those with trivial disabilities or those with severe injuries which render their removal impracticable, will be sent by the recruiting officer for treatment to the nearest military hospital.

When medical treatment, including medicine, nursing, and hospital care, is required by an officer, an enlisted man, a contract surgeon, an acting dental surgeon, or an army nurse, on duty with any command or detachment, by a prisoner in military custody, or by an applicant for enlistment held under observation, and cannot otherwise be had, the commanding officer may employ the necessary civilian service to furnish the same, and just accounts therefor will be paid by the Medical Department. When the officer, the contract surgeon, the acting dental surgeon, or the nurse who requires such treatment is on duty without troops, or the enlisted man is on duty where there is no officer, he or she may arrange for the required service. When medical treatment is required by the superintendent of the Nurse Corps while on duty and cannot otherwise be had she may in like manner procure the necessary civilian service, just accounts therefor to be paid by the Medical Department.

Accounts for the medical treatment of officers, enlisted men, contract surgeons, acting dental surgeons, the superintendent of the Nurse Corps and nurses absent from duty, and of the families and servants of officers and men are not payable from public funds. Accounts for consultation will not be allowed. Treatment of chronic complaints by a specialist will not be paid for unless authority to employ such specialist has been obtained from the Surgeon General. Surgical appliances will be paid for only upon satisfactory evidence of their necessity; and such evidence, except in cases of emergency, should be submitted to the Surgeon General for his approval before purchase. Accounts for hospital stores will be paid only for enlisted men.

A medical officer is responsible to his commanding officer that the allowance of medical property authorized for his command is always on hand and ready for immediate use or transportation.

A requisition for other remedies than those named in the supply table will be honored when the necessity for their use is clearly apparent. A statement of the reasons why special remedies are required shall be forwarded by the medical officer with his requisition.

Medical officers shall restrict their needs in active service to the articles mentioned in the supply tables as published in the Manual of the Medical Department, United States Army, and personal property of the medical officers shall not be used in the military service.

In all returns, estimates, requisitions, invoices and receipts, for medical supplies, the momenclature, order of entry, and classification of the Manual of the Medical Department shall be followed.

The course of instruction of the hospital corps shall be prescribed in the Manual of the Medical Department.

A detachment of the medical department serving with a regimental or smaller organization shall be under the immediate command of its senior medical officer.

On practice and service marches positions shall be taken as prescribed in field service regulations.

Medical officers shall be responsible to their commanding officers and senior officers of their department for the efficiency and discipline of the detachment under their command.

One or more of the privates of the hospital corps shall be designated by the medical officer commanding the detachment as ambulance driver. In addition to his other duties, he shall care for the ambulance, its equipment and harness, and see that they are always in readiness for immediate use. In the field he shall care for the animals.

Ambulances may be used for the transportation of the sick and injured, the absolutely necessary nurses or attendants on duty therewith, the instruction of the hospital corps, and in urgent cases, for the transportation of medical supplies, and all persons are prohibited from using them or requiring or permitting them to be used for any other purpose. It shall be the duty of the officers of the ambulance service to report to the commander of the troops any violation of the provisions of this section.

When members of the hospital corps are detailed for service or when left with the sick or wounded under circumstances which justify the expectation that their rights under the Geneva convention (F. S. R. 307) will not be recognized, commanding officers shall issue to members of the hospital corps pistols or other available firearms.

The surgeon of a post shall assign his assistants and the members of the hospital corps to duty.

Tents, clothing, hospital furniture, and other stores used in the treatment of contagious diseases may be disinfected or burned upon the recommendation and under the supervision of a medical officer.

Hospital property shall not be used for other than hospital purposes.

Medical officers shall furnish company commanders any information, except the diagnosis, which will assist them in determining whether or not the disability of a soldier who is or has been on sick report originated in the line of duty, entering this information in the company sick report book. When required they shall furnish the diagnosis to the commanding officer of the command to which they are attached.

A building will not be erected for or occupied as a hospital until the opinion of a medical officer has been obtained in writing upon the suitableness of site and proposed arrangement. If the commanding officer dissent from this opinion he will return it to the surgeon of the post with his reasons endorsed thereon, who will forward it, through the military channels, to the Surgeon General.

Hospitals will be erected at permanent posts in accordance with plans and specifications furnished by the Surgeon General, approved by the Secretary of War.

No portion of any hospital building at a military post will be used or occupied as quarters, nor will any mess be permitted or maintained therein except such as may be necessary for patients and enlisted men there on duty.

At sick call the enlisted men of each company who require medical attention will be conducted to the hospital or infirmary by a non-commissioned officer, who will give the attending medical officer the company sick report book containing the names of the sick. The medical officer, after examination, will indicate in the book, opposite their names, the men who are to be admitted to hospitals and those to be returned to quarters, noting what duties the latter can perform and any other information in regard to the sick which he may have to communicate to the company commander. The senior medical officer of every command (except independent medical units) promptly after sick call each morning will forward to the adjutant a report of the sick of the command on the prescribed form furnished by the Surgeon General. After the report has served its purpose at headquarters of the command the adjutant will enter in the proper columns the strength of the command for the day present and absent and return the report to the medical officer. Completed morning reports of sick will be preserved for a period of one year, unless the command is sooner discontinued, when they will be destroyed.

Medical officers and contract surgeons on duty will attend officers, enlisted men, contract surgeons, acting dental surgeons, members of the Nurse Corps, prisoners of war and other persons in military custody or confinement, and applicants for enlistment while held under observation; also, when practicable, the families of officers and enlisted men; and at stations, or in the field, where other medical attendance cannot be procured, civilian employees. Medicines will be dispensed to all persons entitled to medical attendance, and hospital stores to enlisted men and hospital matrons, also to officers at posts or stations where they can not be procured by purchase.

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ALBANY MEDICAL ANNALS

Original Communications

RECOVERY FROM A SEVERE CASE OF BICHLORID OF MERCURY POISONING.

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In the April, 1917, number of the *Journal of Laboratory and Clinical Medicine* there appeared an article entitled " Calcium Sulphid as the Chemical Antidote for Mercuric Chlorid Poisoning With Experiments and Case Reports." The author of this original article is J. H. Wilms, M. D., of Cincinnati, Ohio. The reading of this interesting article prompted me to treat my patient as Dr. Wilms suggested.

A detailed case history would not, in the case to be reported, be pertinent or add to the report, so it will be omitted. The patient was a divorced white woman of 25, a waitress, slightly alcoholic, having a positive Wassermann, and gave history of gonorrhœal infection four years ago; never pregnant, no insanity in family. She was of good physique and well nourished. I was called to see this patient, who had swallowed three seven-and-a-half grain mercuric chlorid tablets, November 25, 1916, at 1.45 A. M. I found her on the bed with eyes closed, breathing quickly, semi-conscious, eyes and face congested. There was difficulty in arousing her to obtain answers. By the bed-side was a vessel two-thirds full of vomitus in which on examination no undissolved tablets were found. The young man who called me, stated that a half hour before I reached her, she had taken three seven-and-a-half grain bichlorid tablets and had not vomited for at least twenty minutes afterwards. The patient later confirmed this statement and added that an hour before taking the poison, she had drunk three ginfizzes. She had then returned to her room undoubtedly more or less intoxicated.

The patient reached the Ellis Hospital at 2 A. M. The chronological hospital notes follow:

May 25, 1917, 2 P. M. Patient taken to Out-Patient Department; stomach washed out twice with two quarts of water. Patient made to drink five glasses of water and given hypodermic of one-tenth grain apomorphine; vomited in five minutes; given soap-suds enema with liquid return. Went to toilet twice to make water. Taken to her room at 2:45 A. M. and the following orders were given: milk and white of egg at least once in two hours; water to be forced; russian oil, four ounces, every two hours; calcium lactate, fifteen grains in one dose. At 5 A. M. bowels moved. The patient vomited all water, milk and egg and medication until 6:30 A. M. Vomited considerable blood mixed with milk curds. 7 A. M. Patient states she feels pretty good. 8 A. M. Temperature, 98.4°; pulse, 112; respiration, 24. 9:15 A. M. Voided water eight ounces. 10 A. M. Taken to Out-Patient Department, where an intravenous injection, gravity method, of eight ounces of sterile water solution containing one grain to an ounce of calcium sulphid was given. Four ounces of the same solution were given by mouth. One grain of calcium sulphid by mouth every two hours was ordered. 11 A. M. Urine, twelve ounces. 12 M. Temperature, 98.4°; pulse, 84; respiration, 20. 3 P. M. Good stool. 4 P. M. Nauseated. 7 P. M. Voided one pint; retaining milk; sore and tender over abdomen. 8 P. M. Temperature, 98.3°; pulse, 84; respirations, 20. Patient does not complain. 12 P. M. Temperature, 98°; pulse, 88; respiration, 20. Complains of pain in head. Laboratory findings at hospital: May 25: urine: color, pale; reaction, acid; specific gravity, 1.010; albumen, present; sugar, negative; slightly cloudy; sediment, moderate in amount; microscopic: many squamous cells and a few leucocytes, numerous hyaline and finely granular casts; rarely a cast has a renal cell adherent. (Dr. STONE.)

May 26, 7 A. M. Marked salivation and some stomatitis; temperature, 99°; pulse, 92; respirations, 24; urine, ounces, 14. 10 A. M. Water, ounces, 3; complains of sore gums; blood pressure, 110; systolic diastolic, 85. 12 M.. Temperature, 99°; pulse, 88; respirations, 20; saline enema, two quarts; returns slightly colored—retained a pint. 4 P. M. Temperature, 98°; pulse, 72; respirations, 18; urine, ounces, 16; seems better. 6:30 P. M. Urine, one quart; small amount of greenish discharge in stool. 8 P. M. Temperature, 98°; pulse, 76; respirations, 18; urine, q. s.; comfortable. 12 P. M. *Sleeping.*

Laboratory note on blood. May 26. Haemoglobin, 98, Sahli; reds, 4,800,000; leucocytes, 16,200; differential, 200 cells; polymorphonuclears, 78; lymphocytes, 8; basophiles, 0; large mononuclears, 13; eosinophile, 10. Red corpuscles not noteworthy.—(Dr. STONE.)

May 27, I A. M. Urine, ounces, 8. 2 A. M. Urine, q. s. 7 A. M. Slept well. 8 A. M. Temperature, 98°; pulse, 104; respirations, 20. 12 M. Temperature, 98.3°; pulse, 72; respirations, 18; light brown liquid stool. 2 P. M. Stools contained blood. 4 P. M. Temperature, 98.8°; pulse, 88; respirations, 16. 6 P. M. Urine, ounces, 8; 8 P. M. Temperature, 98°; pulse, 88; respirations, 20. 12, 2, 4 o'clock, sleeping; mouth sore. 6 A. M. Slept well. Urine: no albumen, no sugar, very few casts.

May 28. Liquid petrolatum discontinued. 8 A. M. Temperature, 98°; pulse, 94; respirations, 20; urine, ounces, 14; calcium sulphid, one grain to an ounce of water to wash mouth ordered. 12 M. Temperature, 98.2°; pulse, 22; respirations, 20; blood for Wassermann taken; was positive. 4 P. M. Temperature, 98°; pulse, 72; respirations, 20; comfortable. 2 A. M. Urine, ounces, 12. 6 A. M. Slept well.

May 29, A. M. Temperature, 98°; pulse, 88; respirations, 24; soft diet with caution; vomited. 12 M. Good defecation, large, dark brown. 4 P. M. Temperature, 97.4°; pulse, 74; respirations, 22; discharged.

May 30. At home sitting up; had bad night; ate too much; severe pain in pit of stomach; vomited twice or three times; temperature, 98.8°; pulse, 66; respirations, 18; calcium sulphid, grain, 1, continued every two hours; flower of sulphur and molasses given; sodium phosphate, 2 grains, in A. M.; liquid diet; metallic taste complained of.

May 31. Temperature, 98°; pulse, 72; respirations, 16; feeling better; still pain in epigastrium; vomited; vomitus showed blood; benzidine test; urine, specific gravity, 1.021, acid, clear, no sugar, no albumen, few granular casts and red blood cells; feels weak; looks tired; bowels moved twice in twenty-four hours.

May 31. Blood pressure: systolic, 100; diastolic, 90; the urine tested by method of Vogel and Lee for mercury, showed a very slight amount present. There is a substernal pain that is persistent and made worse by swallowing semi-solids; there is considerable eructation. Liquid diet, lime water every two hours; sodium phosphate, three drachms daily.

Meyer and Gottlieb state: "The excretion of mercury in the urine offers a means of estimating the amount of mercury circulating in the body and the duration of its action. While after absorption mercury circulates about in the body as a compound of mercury albuminate and sodium chlorid, and is chiefly excreted in the faeces and to only a small extent in the urine, still that portion of the mercury which is present in the general circulation, and which passes through the renal vessels, probably maintains a definite ratio to the amount excreted in the urine. The more rapidly the mercury appears in the urine after its administration in the given method the more rapidly and intensely are its effects produced, and the more rapidly its elimination by this channel diminishes the more rapidly does its action in the body pass off. Always, however, it continues to be excreted for months, and, under certain circumstances, after the urine has become free from mercury, it may appear in it again, both of these facts proving that mercury is stored up in different organs, as a result of which poisoning must sooner or later result if the elimination fails to keep pace with the absorption."

June 2. No distress with liquids, but after taking soft boiled egg and bread, vomited. Some headache. One sore spot on gum and one on hard palate. Urine examination negative. Blood analysis: Reds, 4,112,000; whites, 4,000; differential, polymorphonuclears, 60; lymphocytes, small and large, 35; eosinophiles, 5; haemoglobin, 95 per cent; renal function, phthalein, 55 per cent.

June 5. Constant headache; bad taste has disappeared; some pain over epigastrium after eating; blood pressure, systolic, 110; diastolic, 82; temperature, 98.6°; pulse, 78; urine, normal.

July 9. Some pain in epigastrium and headache, but growing less each day.

August 1. Patient apparently normal.

Most readers will not have access to the article referred to in the *Journal of Laboratory and Clinical Medicine.* The following is a brief resumé and epitome:

$$CaS + Hg\ Cl_2 = Ca\ Cl_2 + HgS$$

Mercuric sulphid and calcium chlorid are two almost inert chemical compounds.

Experiments with feeding seven dogs very hard insoluble $Hg\ Cl_2$ tablets showed they gave an average solubility in the stomach of six grains $Hg.\ Cl_2$ in from five to six minutes. Three dogs were given 7.3 grains of $Hg\ Cl_2$ and no antidote. In a few minutes three to five of the dogs vomited blood stained mucus. *Exp. I:* Dog lived 4 days. *Exp. II:* Dog lived 3 days *Exp. III:* Dog killed on 4th day. *Exp.* A dog was placed in a cage soiled with vomitus, where a dog poisoned by $Hg\ Cl_2$ had been and was thus poisoned, causing death of the dog in six days. *Exp. II:* Dog fed by mouth solution 7.5 grains bichlorid with 7.5 grains calcium sulphid; no effect; dog well.

Then follow *Exp. V, VI, VII,* and *VIII,* in which dogs were given 7.3 grains bichlorid with the prompt vomiting, rectal tenesmus, bloody diarrhœa, etc. *Exp. V* allowed the dog to go forty-eight hours; *Exp. VI,* also forty-eight hours; *Exp. VII,* seventy-two hours; *Exp. VIII,* forty-eight hours before calcium sulphid was administered intravenously. Dogs in *Exp. VII* and *VIII* died due to calcium sulphid being poor. *Exp. V* and *VI* showed the dogs to recover promptly from marked poisoning after receiving treatment and their postmortems showed their organs practically normal. Dog of *Exp. IX* after forty-eight hours, recovered. Dog of *Exp. X,* six hours antidote (CaS) in oil, recovered.

The postmortem on these dogs showed: Intestines were red and inflamed; stomach contained a thick coffee-colored fluid; a round ulcer about one centimeter in diameter was found on the anterior surface near the pylorus; submucous clot-like masses were found about the pylorus, varying in size from two to five millimeters in diameter; the duodenum was red and inflamed; bile, thick and gritty; the kidney cortex was red and streaked; the medulla nephrica was congested, proportion of cortex one to medulla three; red fluid in the calices. Chest: Both lungs hepatized. Heart: Ulcer on the visceral layer of the pericardium over the terminals of the coronary vessels; pericardium thickened; myocardium inflamed; musculi pectinati markedly inflamed; subendocardial ecchymoses in both ventricles. Esophagus inflamed."

Mr. Frank Maltaner, M. A., after duplicating these experiments, using rabbits instead of dogs, draws conclusions:

"The value of the antidote probably lies in the formation of the relatively insoluble, double salt, mercuric sulphid mercuric chlorid ($HgS. HgCl_2$) and the very insoluble mercuric sulphid.

"Both of these substances are formed in the test tubes, the formation of the insoluble sulphid depending upon the excess of calcium sulphid used."

Case Reports

A considerable number of cases of human beings cited where the administration of calcium sulphid by mouth (one grain to three grains every two hours) after the taking of bichlorid was followed by recovery. Also cases were reported of recovery after the intravenous administration of calcium sulphid.

Summary and Conclusions of Article

" In advanced cases of mercuric chlorid poisoning the intravenous method of injecting calcium sulphid solution grain for grain of the bichlorid of mercury taken, is the safest and most rapid. An advantage of the intravenous method lies in the assurance that the patient receives the required amount of the antidote, and that it is more direct. Calcium sulphid may also be administered by mouth when the intravenous method is not practicable. When the discomfort or the condition of the patient warrants it, both methods may be used. The use of calcium sulphid by mouth may be continued till all symptoms of mercuralism have disappeared, since it is nontoxic. Recovery has taken place, when the antidote was administered by mouth. as late as twelve hours after taking 7.5 grains of bichlorid of mercury, and thirty hours when administered intravenously.

" The minimum lethal dose of bichlorid of mercury in the human being is one decigram. (Barbour.)

" The calcium sulphid solution must be freshly prepared for intravenous exhibition or it loses its sulphur and becomes ineffective. Calcium sulphid solution should not be used stronger than one grain to the ounce of water. The solution should be boiled and filtered through cotton. It should preferably be given in the median basilic or the median cephalic vein.

" Calcium sulphid is the quickest, simplest and surest antidote for mercurial poisoning used at the present time. It has been proved clinically and in the laboratory.

" Experiments showed that mercuric chlorid poisoning produced a wide pathologenesis notably, gastritis, ulcer of the stomach, hepatitis, duodenitis endocarditis, ulcerative pericarditis, pneumonitis, tubular nephritis (which is manifested by complete suppression of the urine) and a number of other very marked pathological changes, microscopically and macroscopically manifested. All these tissue changes become normal with the exhibition of one dose of calcium sulphid in solution intravenously grain for grain of poison taken.

"When given by mouth, it should be administered in the tablet or crude drug form, in two to five grain doses every hour, until an excessive amount is taken. A grain is four times the amount of calcium sulphid necessary to neutralize mercuric chlorid in the test tube.

"The calcium sulphid solution, if deteriorated, will produce severe convulsions owing to the free action of calcium on the spinal cord, hence the necessity of a fresh solution. Another danger is the possibility in deteriorated solutions, of hydrogen sulphid which is a fatal poison being present.

"Local antidoting in the stomach by the use of whites of eggs and lavage with large quantities of water is useless; bichlorid of mercury is so rapidly absorbed from the stomach that very little remains in the stomach unabsorbed at the end of five minutes. The vomiting, by this time, is so profuse that if any free bichlorid of mercury were still present in the stomach, it would not remain long enough to cause further damage.

"These experiments on dogs can not be regarded as conclusions. There is a difference between test-tube chemistry and that of human metabolism.

"The possibility that calcium sulphid may act as a real cure in such cases of bichlorid poisoning must be investigated more thoroughly. No harm can come."

In this case reported by me, there are some interesting speculative considerations:

(1) Did she take over twenty-one grains of bichlorid? Severe epigastric pain, vomiting of blood, blood in stools, mercury in urine, immediate symptoms of kidney irritation, stomatitis and salivation would go to prove she must have taken at least a considerable amount.

(2) What part did stomach lavage, enema, liquid petrolatum, egg-albumen and milk play in her recovery, if any? These same things have repeatedly failed in other cases.

(3) Did the fact that her stomach and digestive tract had been deranged in absorptive power by alcohol, have any influence?

(4) Did the fact that she was an active syphilitic, mean anything?

Six weeks after I discharged this patient from the bichlorid poisoning I saw her with very numerous active secondary syphilitic lesions. The overwhelming dose of mercury did not prevent the syphilis continuing its usual course.

Attention is called to the interesting reports of experiments on the value of phosphite and hypophosphite combinations as antidotes in mercuric chlorid poisoning as published in the *Journal of Laboratory and Clinical Medicine* by Bernard Fantus, M. D., and Emory G. Hyatt of Chicago.

APLASTIC ANEMIA.

From the Medical Service of the Albany Hospital, Fourth Year Student Section Work,—Albany Medical College

By HYMAN HERSHBERG, M. D.,

New York City.

History.—Ehrlich in 1888 described a typical case of aplastic anemia. Since then isolated cases have been reported abroad and in this country.

Etiology.—Block, Kelly and Ziegler think "aplastic anemia" is a primary inherent diathesis or a developed asthenic condition of the bone marrow. Türk thinks it is a hypoplasia of the vascular system because as a result of the investigations of the Neisser Klinik it was agreed that there is an internal relationship between the development of the vascular system and marrow tissue. In the reported cases we find the following causes: angina with abscess formation, severe dermatitis, puerperal septicaemia, pernicious anemia with severe hemorrhages, buccal periostitis, mouth trouble, ulceration of the throat, measles, whooping cough, pneumonia and hereditary syphilis. Experimentally this disease has been reproduced in dogs and rabbits. Blumenthal and Morawitz have shown that continuous withdrawal of blood from dogs and rabbits produces disappearance of erythroblastic and myeloblastic tissues and causes increase in the lymphoid elements. It produces changes in the bone marrow that have a relationship with those of aplastic anemia in man. The presence of iron pigment in different organs and especially in the liver at the autopsy demonstrates the haemolytic character of the disease.

Pathological Anatomy.—The most important changes are in the marrow of the bones. The macroscopical changes in the marrow are not uniform. Sometimes this tissue is yellow and gelatinous, *sometimes red and cellular.* In most typical cases the marrow is yellow and consists of fat.

Microscopically: Erythroblasts, myelocytes and other cells having to do with the formation of blood corpuscles are few in number or completely lacking. The number of lymphocytes is abundant. Neutrophilic myelocytes so abundant in normal red marrow are found only after careful searching here. Megaloblasts are also few in number. Numerous hemorrhages are found in the endocardium, myocardium and pericardium, in the pleural sac, hemorrhages in the cerebral hemispheres, so pachymeningitis haemorrhagica interna and bleeding in the ovaries.

Pathogeny.—The marrow is so extensively diseased that it cannot perform its functions or it fails to do so in spite of the usual stimulus. The inability of the marrow to respond explains why the cases progress so rapidly and why the characteristic blood picture develops. The blood picture is the result of hemocytolysis or of the failure of regeneration of the bone marrow, which may be caused by a simple deficiency of the regenerative powers. An inhibitive action of the bone marrow may be caused by the same factors that produce the destruction of the blood elements.

Kleinschmidt believes that not the constitution of the organism but a toxin causes the disease. It is an injurious agent which acts not only as an haemolytic agent, but also on the bone marrow which is unable to resist.

Symptomatology.—The disease may last from six to nine months. Generally it is a rapidly fatal disease. The disease is usually of a gradual onset. The patient becomes weaker from day to day. The asthenia is very marked after a short time. The patient complains of intense headaches, thirst and loss of appetite. Nausea and vomiting may become persistent. Fever, a temperature from 100°-103°. Pulse is small. In most of the cases the loss of weight is marked. With the progress of the disease the patient becomes apathetic and depressed.

Physical examination shows a slight enlargement of the liver. The spleen may be palpable, there may be also a slight enlargement of the lymph glands. Most striking are the numerous hemorrhages in the skin, mucous membranes and internal organs. Death is due to the great destruction of blood and lack of resistance.

Treatment.—Iron, arsenic, sodium cacodylate and blood transfusions are without any help. The disease takes always a rapid, malignant and fatal issue.

PATIENT: M. E.—Age, 16; white, female, entered the Albany Hospital, November 14, 1915, unable to complain of anything. From the family physician and from some of her relatives the following history was obtained:

The family physician writes the following:

"I can safely say that during thirty years of practice in both city and country it was the most peculiar case I ever saw, and I was unable to make a diagnosis. As to the family history: the father is living in good health and the mother died suddenly of cerebral hemorrhage. She was a powerful and healthy looking woman and mother of a large number of children.

"I saw the patient some time during November, 1915, and made two or three visits, and as the family with whom she was living could not take care of her, I sent her to the hospital. When I first saw her, I was surprised at the extreme degree of anemia and exhaustion. She had slight fever, from 101° to 102°, and a rapid pulse from 90 to 120. The degree of weakness was such that I gave an unfavorable prognosis and felt that the patient only had a few days to live. If I remember correctly she was ill about two weeks.

"The mouth had the appearance of stomatitis and the breath was very foul. There was no evidence of any throat trouble. I thought of a possible diabetic condition, but found the urine negative. There was no evidence of a tubercular condition. To make sure that there was no typhoid, I had Widal test made which was negative. I made a probable diagnosis of pernicious anemia due to some toxic condition. Purpura was the last thing I would have expected as there were no external evidences."

Physical Examination.—The patient is a young girl apparently slightly deaf. She is conscious and rational. There is a strikingly pale color of the skin and mucus membranes and there are blood crusts about the nose, lips and gums. The mouth is opened with difficulty and shows extreme pallor of the entire oral cavity. Pupils react to light and accommodation. Occular movements are normal. There is no discharge from the ears. Superficial glands are not enlarged.

Thorax is symmetrical; costal angle is 90. The clavicles are not prominent, the type of breathing is costo-abdominal. The movements of the two sides are equal. There are no visible pulsations.

Lungs.—The breath sounds are harsh. There are a few crackling râles posteriorly in the subscapular regions.

Heart.—The cardiac dullness is 8 c. m. to the left and 3 c. m. to the right of the mid-sternal line. There is a systolic murmur at the apex. It is not transmitted and there is a systolic (haemic) murmur at the base of the cardiac area.

Liver.—The dulness extends from the fourth rib to the costal margin.

Spleen is not palpable and is not enlarged to percussion.

Extremities.—There is very slight puffiness at the feet.

Nervous System.—The knee jerks and tendo-achillis are preserved. There is no Babinsky or Oppenheim. The tendon reflexes in the upper extremities are preserved. The organic reflexes are not involved.

The most important physical signs in this patient are the blood clots on the upper and lower lips, the tongue and the right tonsils; also about the nose. There are small ecchymoses in the first interspace (right side) and over the sternum at the level of the third rib, on the anterior superior spines, on the thighs and tibias.

Temperature.—97.5°-103°.

Pulse.—120-160.

Respirations.—30-55.

Laboratory Finding.—*Urine.*—Sp. gr. 1.020; color, amber; albumin, negative; sugar, negative; bile, negative; microscopic, negative.

Stool Examination.—Negative for blood by guaiac test; microscope, negative.

Blood.—November 15, 1915, white blood cells, 800. Second examination of the blood on the same day was made: white blood cells, 1,200; red blood cells, 1,400,000; haemoglobin, 10 per cent.

Differential Count.—Small lymphocytes, 81 per cent; large lymphocytes, 7 per cent; polymorphonuclear neutrophiles, 12 per cent; no eosinophiles, no blood platelets,* no nucleated red cells, no normoblasts or megaloblasts; no polychromatophylia.

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* I believe that the absence of the blood platelets and the marked decrease in the leukocytes explain the great retardation in the coagulation of the blood drops, because it seems definitely proved that the blood platelets and leukocytes are the chief source of the coagulation power of the blood.

From November 14th to November 17th the patient became progressively worse. An attempt was made to perform a blood transfusion, but the patient died (on November 17th) before this could be accomplished.

Post Mortem Examination performed at the Albany Hospital, November 17, 1915, for Dr. Ordway by Dr. Kellert.

M. E.—Age, 16 years. Fourteen hours post mortem.

The body is that of a well developed, somewhat emaciated white young woman. Rigor mortis is present. There is slight post mortem lividity in the dependent portions. Oedema is absent. The pupils are mid-wide, the right is somewhat smaller than the left. Pale bloody fluid is seen about the nostrils and the mouth. The teeth are in poor condition and covered with sordes. The border of the lips shows several small deep red areas. Scattered over the entire body, particularly about the extremities and the bend of the left elbow, are numerous minute petechial areas not elevated and not surrounded by any discoloration. On the external surface of the left leg beneath the knee is a small area of subcutaneous hemorrhage. There is no enlargement of superficial lymph nodes.

Peritoneal Cavity.—The abdominal wall contains a slight amount of fat, bright yellow in color. The abdominal muscles are abnormally reddened. The peritoneal surfaces appear smooth and glistening. No free fluid is present. The appendix is approximately 10 c. m. in length and lies retrocœcal.

Pleural Cavities.—The surfaces are normally smooth, moist and glistening. In the left pleural cavity there is found about 50 c. c. of amber colored turbid fluid and a small fibrinous clot. The right pleural cavity is negative.

Lungs.—They are somewhat voluminous. Crepitation is present throughout but diminished in the lower lobes. The upper lobe of each lung presents an occasional subpleural hemorrhage of variable size. Similar areas are more numerous in the lower lobes on each side, coalescing and forming large areas of bluish discoloration. These lobes have a distinctly pebbly feel, and on cross section numerous areas of consolidation are found. These areas are firm and sharply circumscribed. Cut surface projects slightly and has a distinctly granular appearance. A moderate amount of bloody fluid escapes on section.

Pericardial Cavity.—It contains approximately 100 c. c. of amber colored fluid, and an elongated fibrinous clot is adherent to the anterior surface of the heart. The surfaces are smooth.

Heart.—It weighs 205 grams. The cavities present no dilatation. The epicardium presents several small bright red areas, apparently hemorrhages, which extend into the myocardium. In the right ventricle these areas communicate with similar areas in the endocardium. The myocardium is very pale and shows a tendency toward mottling which is well marked in the papillary muscles. The endocardium appears normal, except for the reddish areas. The valves are negative. On the external surface of the heart one of the reddened areas shows a yellowish-white center.

Spleen.—It weighs 180 grams. The capsule is bluish-red in color and smooth. To the lower pole is attached a firm adhesion. The splenic notch is well marked. It is firm in consistency and its cut surface is negative. Surface scrapings are normal in amount.

Liver.—Weight, 1,275 grams. It is pale brown in color and firm in consistence. The surface is smooth. Cut surface is also pale brown in color and the hepatic markings are slightly obscured. The gall bladder is somewhat contracted, otherwise negative.

Pancreas.—It is normal in size and consistency. It is pale white in color.

Kidneys.—Combined weight, 290 grams. They are exceedingly pale. There is a moderate amount of perinephritic fat present. The capsule strips readily, exposing a smooth surface. The lower pole of each kidney presents a marked dilatation of the cortical veins and an occasional minute hemorrhage is seen beneath the capsule. On cut section the pyramids and cortex are prominent, but very pale. The pelvis of the left kidney shows a small accumulation of turbid fluid. The mucosa appears normal.

Adrenals.—They are normal in size and shape and present alternating yellowish and grayish areas.

Gastro-Intestinal Tract.—The stomach is slightly dilated and contains from 300 to 400 c. c. of fluid. The mucosa is extremely pale and only an occasional reddened area is found. The duodenum is slightly dilated, the jejunum is negative, the ileum also appears normal, the solitary follicles and Peyer's patches are prominent, but no evidence of inflammation or ulceration can be found.

The mucosa appears normal. The large intestine is also negative. There is no evidence here or in the sigmoid or colon of submucous hemorrhages. The foetal material in the large intestine is bright yellow in color. The lymph nodes of the mesentery are slghtly enlarged and reddened. Throughout the mesentery, particularly along the intestinal attachment are numerous small grayish-black rounded areas suggesting pigment or collections of lymphoid tissue.

Genital Organs.—External genitalia, negative. The uterus and tubes are normal; the bladder is negative.

Aorta.—It is normally smooth and elastic, but the diameter appears to be slightly diminished. Very little blood is present in the vascular system and the fluid which is found is very pale.

Bone Marrow.—The marrow of the right femur is *bright red in the upper third, pale red in the middle and very dark red in the lower third.*

No evidence of fatty marrow is found. The marrow in the upper portion of the femur is firm in consistency.

Organs of the Neck.—Not done.

Head.—Not done.

Bacteriology.—Cultures from heart's blood yield Gram-negative bacilli and streptococci.

Smears from Bone Marrow show Gram-positive cocci in pairs, Gram-negative bacilli and short thick Gram-positive bacilli. Cultures show streptococci and Gram-negative bacilli. Cultures from pericardial cavity and pelvis of kidney yield streptococci and Gram-negative bacilli. Cultures from lung show streptococci, staphylococci, pyogenes aureus and bacillus aerogenes capsulatus. (Probably represent terminal infection due to lowered resistance as well as post-mortem invasion from gastro-intestinal tract.)

Microscopical examination of the numerous sections of the bone marrow showed that myelocytes, erythroblasts, megaloblasts and especially the neutrophilic myelocytes are few in number, but the number of lymphocytes was abundant.

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Editorial

> Although only an amateur in medicine, he was invited by the physicians to attend the meetings of their club, and it was of this club that he told the story that the question was once raised whether physicians had, on the whole, done more good than harm. After a long debate, Sir John Pringle, the president, was asked to give his opinion, and replied that if by physicians they meant to include old women, he thought they had done more good than harm; otherwise more harm than good.
>
> *The True Benjamin Franklin.* SIDNEY GEORGE FISHER.

+ + +

The Alumni Association

The perennial task of arranging the meeting of the Alumni Association may easily fall into the simple duty of preparing a routine program. The occasion is always enjoyable, even when very simple plans are adopted. But times and customs change, and events bring about conditions which demand recognition. This is the situation in the college at present. Reorganization of its administration has been effected, and it is now, after two years of trial, firmly established. Participation in military service has revealed the capability and patriotism of a large number of alumni, which will become all the more patent when the ratios of enlistments of the various colleges are computed. Laboratory and hospital advantages are being correlated with the college teaching upon lines long laid out but never more effectively accomplished.

The Executive Committee has taken notice of all these facts, and under the energetic direction of Dr. Lamb, President of the Association, has determined upon an alumni reunion next June, which shall represent the activities of an institution of high grade, and demonstrate the pride and fellowship of its graduates. Two meetings of the Committee have been held, and after full discussion a general outline of the next anniversary has been determined. The tentative program, subject to such modification as becomes necessary, has been adopted, and the following recommendations, subject to necessary changes, are proposed:

1st. That the alumni reunion be held the day following commencement at Union College;

2nd. That, provided the Union Commencement and the Medical Commencement are identical, the following program be adopted:

a. General assembly of alumni in the College at 9 A. M.
b. Association Meeting at 10 A. M.
c. Demonstrations at the College, 11:30 A. M. to 1 P. M.
d. Luncheon at Country Club, 1 P. M. Automobiles to be provided.
e. Clinics at Albany Hospital, 3 to 5 P. M.
f. Lawn party at Albany Hospital, 5 P. M.
g. Association dinner, Hotel Ten Eyck, 8 P. M.

It is further recommended:

That the ANNALS is officially recognized as the medium of communication between the members of the Association themselves and between them and the College;

That the Executive Committee emphasize the importance of the ANNALS as the representative publication of the Association and of the College, and urge the better and more general support of the ANNALS by the Association.

That it is particularly important at this crisis that the activities of the alumni in military service be recorded in the ANNALS and that every effort be made to secure this record;

That through the ANNALS an energetic effort be made to arouse the interest of alumni in commencement; and to publish from time to time such information as will promote the success of the commencement meetings.

It is finally recommended:

That the president be requested to issue a circular letter to the alumni, outlining the purposes of this committee, and asking support for the ANNALS and for the Association.

It is believed that the members of the Association will receive the announcement of these innovations with pleasure, and will accept, in so far as their engagements will permit, the opportunity for a day of scientific and social pleasure.

Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

BUREAU OF VITAL STATISTICS.

COMPILED BY WILLIAM F. FULLGRAFF, REGISTRAR.

DEATHS FOR MONTH OF OCTOBER, 1917.

Consumption	8	Broncho pneumonia	7
Typhoid fever	0	Bright's disease	9
Scarlet fever	0	Apoplexy	11
Measles	0	Cancer	17
Whooping cough	1	Accidents and violence	14
Grippe	0	Deaths under 1 year	13
Diarrheal diseases	7	Deaths over 70 years	38
Diphtheria and croup	2	Death rate	15.30
Pneumonia	4	Death rate less non-residents	12.41

Deaths in Institutions.

	Non-res.	Res.		Non-res.	Res.
Albany Hospital	9	11	Infants' Home	0	2
Albany Hospital Camp	3	0	Maternity Hospital	0	2
Homeopathic Hospital	5	1	St. Margaret's House	4	0
St. Peter's Hospital	2	8	Home for the Aged	1	1
Central Federation Pavilion	1	0	Home for the Friendless	1	1
Hospital for Incurables	4	1	Dominican Convent	0	2
Albany County Hospital	1	0	Public places	0	3
				31	32

Births	194	Still births	6

BUREAU OF COMMUNICABLE DISEASE.

Cases reported during October, 1917.

Typhoid fever	13	Measles	3
Scarlet fever	6	Whooping-cough	9
Diphtheria and croup	12	Tuberculosis	33
Chickenpox	25	Ophthalmia neonatorum	1
Smallpox	1		
		Total	103

Number of days quarantine for diphtheria:
Longest...... 10 Shortest...... 10 Average...... 10

Number of days quarantine for scarlet fever:
Longest...... 32 Shortest...... 32 Average...... 32
Fumigations: Houses...... 23 Rooms...... 138
Milk bottles disinfected 40

Communicable Disease in Relation to Schools.

	Reported			Deaths		
	D.	S.F.	M.	D.	S.F.	M
Public School No. 4........................		1				
Public School No. 20........................	1					
St. Joseph's Academy	1	1				
Cathedral School	1					

Nurses' Report.

Tuberculosis.

Living cases on record October 1, 1917..............................		781
Cases reported:		
By card	31	
Dead cases by certificate............................	2	33
		814
Dead cases previously reported.........................	6	
Dead cases not previously reported......................	2	
Removed	2	
Died out of town..	1	11
Living cases on record Nov. 1, 1917..........................		803
Total tuberculosis death certificates..............................		8
Non-resident deaths:		
Albany Hospital Camp	3	
C. F. L. Pavilion..................................	1	4
Resident deaths		4

Visits to Cases of Communicable Disease.

Tuberculosis	8	Miscellaneous	39
Smallpox	2	Visits to physicians..........	6

Bender Laboratory Report.

Diphtheria.

Initial positive	12	Release negative	6
Initial negative	110	No growth	10
Release positive	2		
		Total	140

Sputum for Tuberculosis.

Positive	40	Negative	71
		Total	111

Widals.

Positive	13	Suspicious	7
Negative	27		
		Total	47

Milk analyses	163	Water analyses	9
Wassermann reactions	167		

BUREAU OF NUISANCES.

Complaints made	49	Reinspections	48
Inspections	52	Plumbing	11
Plumbing	17	Sanitary	37
Sanitary	35		

HEARINGS.

Cases heard before Health Officer	5

Class of Cases

Plumbing	2	Filthy premises	1
Privy vault	1	Smoke	1

Disposition of Cases.

Abated	1	Reinspections	4

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

Inspections	139	New buildings	7
Old houses	74	Houses tested	4
New houses	65	Water tests	4
Permits issued	109	Houses examined	26
Plumbing	91	Re-examined	59
Building	18	Valid	16
Plans submitted	15	Without cause	10
Old buildings	8		

DEAD ANIMAL REPORT.

Horses removed	16	Cats removed	261
Dogs removed	277		
		Total	554

Bureau of Markets and Milk.

Public market inspections	15
Market inspections	2
Lactometer readings	115
Temperature readings	115
Fat tests	70
Sediment tests	87
Chemical tests	24
Bacterial counts	70
Milk depots inspected	7
Milk houses inspected	107
Stores inspected	76
Milk cans inspected	1,087
Dairies inspected	106
Cows examined	1,362
Dairies quarantined	1
Peaches condemned . (baskets)	7
Dates condemned .... (boxes)	8

Miscellaneous.

Cards posted for communicable disease	16
Cards removed	6
Notices served on schools	103
Notices served on stores and factories	5
Postal card returns sent to doctors	16
Postal card returns received from doctors	6
Inspections and reinspections	40
Employment certificates issued to children	38
Vaccinations	98
Cases assigned to health physicians	52
Calls made	84

Garbage collected from 1st District (bbls.)	149
Garbage collected from 2d District (bbls.	270
Garbage collected from 3d District (bbls.)	268

Medical News

Albany Enlistments.—Dr. Henry L. K. Shaw (A. M. C. '96), who has received a commission of major in the Medical Reserve Corps, and who has recently been transferred from Madison Barracks, N. Y., to Fort Oglethorpe, Ga., calls attention to the large number of physicians who have entered the service from Albany. Of the one hundred and seventy-six physicians of Albany, forty-six have received commissions and forty-one are in active service, fourteen having been rejected on account of physical disability, age or some other sufficient cause. This gives a percentage of twenty-six for all physicians, and thirty-one for members of the County Medical Society, of which one hundred and forty-eight are members, not including those whose applications were rejected.

Medical Service of the Army and Navy.—Dr. Patrick J. Hirst (A. M. C. '10), of Ballston Spa, N. Y., has received his commission as first lieutenant in the Medical Reserve Corps, and has been ordered for duty as a member of a board of medical officers for the special examination of tuberculosis to Camp McClellan, Anniston, Ala.

—Dr. Morris B. Beecroft (A. M. C. '13), of Albany, N. Y., has received his commission as captain in the Medical Reserve Corps, and has been ordered to Rockefeller Institute, New York City, for a course of instruction in laboratory work.

—Dr. Nathan D. Garnsey (A. M. C. '91), of Kinderhook, N. Y., has received his commission as lieutenant in the Medical Reserve Corps.

—Dr. Edward J. Callahan (A. M. C. '14), of Schuylerville, N. Y., has arrived in England for duty in France as a member of the Medical Reserve Corps.

—Dr. Charles A. Krauss (A. M. C. '16), of Troy, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered for duty to Camp Meade, Annapolis Junction, Md.

—Dr. John C. Knapp (A. M. C. '16), of Philmont, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered to Cornell Medical College, New York City, for a course in military roentgenology.

—Dr. Robert W. Andrews (A. M. C. '98), of Poughkeepsie, N. Y., has received his commission as major in the Medical Reserve Corps, and has been ordered for temporary duty to the Boston City Hospital for a course of instruction in fractures.

—Dr. Ray H. Humphrey (A. M. C. '13), of Union, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered for duty to Camp Logan, Houston, Tex.

—Dr. Leo R. Tighe (A. M. C. '16), of Poughkeepsie, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered for duty to Hospital Train No. 21.

—Dr. Richard P. Doody (A. M. C. '16), of Troy, N. Y., has received his commission as lieutenant in the Medical Reserve Corps, and has been ordered to Kelly Field, Signal Corps, Aviation School, San Antonio, Tex.

—Dr. James E. Maloney (A. M. C. '07), of Ravena, N. Y., has received his commission as captain in the Medical Reserve Corps, and is stationed at Camp Sherman, Chillicothe, Ohio.

—Dr. Waldo H. Sanford (A. M. C. '96), of New York City, has received his commission as captain in the Medical Reserve Corps, and is stationed at Louisville, Ky.

—Dr. Joseph B. Betts (A. M. C. '94), formerly senior physician and pathologist at the Buffalo State Hospital, Buffalo, N. Y., has joined Base Hospital Unit No. 23, as pathologist, and has received his commission as captain in the United States Army.

—Dr. Clinton B. Hawn (A. M. C. '06), Dr. Joseph P. O'Brien (A. M. C. '98), and Dr. Edwin L. Draper, instructor in surgery in the Albany Medical College, have been promoted from the rank of lieutenant to that of captain in the Medical Reserve Corps.

—Dr. David W. Beard (A. M. C. '14), of Cobleskill, N. Y., has received his commission as first lieutenant in the Medical Reserve Corps, and is stationed at Camp Jackson, Columbia, S. C.

—Dr. Frederic W. Loughran (A. M. C. '90), with rank of major in the Medical Reserve Corps, has been ordered for duty as instructor to Fort Oglethorpe, Ga.

—Dr. Emanuel M. Freund (A. M. C. '16), holding commission as lieutenant in the Medical Reserve Corps, is reported to have arrived safely in France.

—Dr. Harry V. Judge (A. M. C. '14), has received his commission as first lieutenant in the Medical Reserve Corps, and is stationed at the base hospital at Camp Jackson, Columbia, S. C.

Personals.—Dr. Henry F. C. Muller (A. M. C. '87), formerly of Rensselaerville, N. Y., has removed to Ravena, N. Y.

—Dr. John H. Reid (A. M. C. '04), of Troy, N. Y., was elected Recording Secretary of the New York and New England Association of Railway Surgeons at its twenty-seventh annual meeting, held at Hotel Astor, New York, on November 8, 1917.

—Dr. Joseph H. Bowers (A. M. C. '12), has resigned his position as house physician at the Brady Maternity Hospital in Albany, and will begin private practice with offices at 835 Lancaster St.

—Dr. Benjamin H. Shapiro (A. M. C. '15), has been appointed medical interne at the Brooklyn State Hospital, Brooklyn, N. Y.

—Dr. Roy L. Leak (A. M. C. '98), formerly at the St. Lawrence and Manhattan State Hospitals, and more recently in charge of the Psychopathic Hospital in Syracuse, N. Y., has been appointed Medical Director of the State Hospital for the Insane at Columbia, S. C.

—Dr. Howard M. Kenyon (A. M. C. '17), has been appointed Medical Interne at the Binghamton State Hospital, Binghamton, N. Y.

—Dr. Henry M. Chandler (A. M. C. '03), has been appointed assistant physician at the Manhattan State Hospital, Ward's Island, New York City.

—Dr. Earl C. Waterbury (A. M. C. '16), has removed from Pine Bush, N. Y., to Croton Lake, N. Y.

—Dr. Harry S. Howard (A. M. C. '13), has removed from Albany to Minaville, N. Y.

—Dr. Charles Bernstein (A. M. C. '94), publishes a paper on "The Various Phases of Feeble-Mindedness and the Stigma of Degeneration," in the *New York State Journal of Medicine* for November, 1917. Dr Bernstein's paper was the basis of a clinic and address given in a symposium on feeble-mindedness at the annual meeting of the Medical Society of the State of New York, held April 26, 1917.

—Dr. Ward W. Millias (A. M. C. '12), discussed Dr. Bernstein's paper, and his remarks are published in the *New York State Journal of Medicine* for November, 1917.

—Dr. George P. Coopernail (A. M. C. '00), of Bedford, N. Y., publishes a paper on "A Plea for More Caesarian Sections in Selected Cases: Thirty-four Consecutive Cases Without Mortality to Mother or Child," in the *Medical Record* of November 17, 1917. Dr. Coopernail's paper was presented before the Westchester County Medical Society at the September meeting, 1917.

—Dr. Theron Smith (A. M. C. '14), formerly Medical Interne at the Binghamton State Hospital, Binghamton, N. Y., has resigned to engage in practice at Sea Island City, N. J.

—Dr. James H. Van Buren (A. M. C. '05), has resigned his position as Junior Assistant Physician at the Craig Colony for Epileptics, Sonyea, N. Y.

In Memoriam

Died.—Dr. Melvin Sheldon (A. M. C. '93), died at Brooklyn, N. Y., aged 51. Dr. Sheldon was a member of the Medical Society of the State of New York, and was one time a member of the staff of the Samaritan Hospital, Brooklyn, and was also president of the Physicians' Economic League of Brooklyn. He died at his summer home in Churchtown, N. Y., October 8, 1917, from pneumonia.

—Dr. Will O. Scott (A. M. C. '91), died at Massena Springs, N. Y., on May 24, 1917, from chronic nephritis, aged 49. After graduation Dr. Scott began practice at Parish, Oswego county, N. Y., and there remained until his death. He was a member of the County and of the State Societies.

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2.—Sputum should be sent in clean wide-mouth bottles; the ordinary vaseline bottle answers all purposes. The same bottle is suitable for faeces. Urine should be in clean bottles containing not less than six ounces.

3.—Exudates and other material requiring a bacteriological examination by culture should be placed in containers previously sterilized by heat (not chemical disinfectants).

4.—Outfits for special purposes, as diphtheria cultures, Widal reaction, vaccines, Wassermann reactions, etc., will be sent upon application.

5.—Tissues and fluids for animal inoculation, e. g., hydrophobia, tetanus, tuberculosis, etc., are best sent packed in ice. In cases of suspected hydrophobia it is advisable to send the entire animal without injury to the brain or cord.

6.—Haematological examinations at the patient's home will be made by appointment.

7.—Milk and water for bacteriological examination should be sent in sterile glass containers, packed in ice. Special instructions for the collection of samples may be had upon application.

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